

THE CONTEMPT OF
FREEDOM

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AND AFTER

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PREFACE

THESE essays are notes taken down during a short but decisive span of history: the five years between 1935 and 1940. In those years the ideas of liberty, which at the end of the period were to divide the world in a struggle of life and death, were left almost uncultivated. The progressive minds were so fascinated by the prospects of the revolution in Russia that they had little interest left for the fate of traditional liberties. In fact, they were inclined to look at these with contempt, to consider them as ineffectual and hollow phrases as compared with the solid realities of the coming social revolution. The most enterprising and generous minds of the period looked at Individualism with suspicion, as at a screen sheltering vested interests against fundamental change on collectivist lines. Attempts to protect liberty against Collectivism were met with scorn and derision by the intellectual advance guard of the time. Progress had become antagonistic to liberty, disregarding its claims, and bitterly exposing its limitations to contempt and ridicule.

Only now that the peril of freedom has become deadly has its value again been recognized; the

progressives who made light of it before have now joined the masses who rallied to its defence. But the consequences of the tragic separation of progress and liberty are yet with us. The cause of freedom has yet to rely on popular tradition and patriotism; it lacks the dynamic, the vital, promise of a great future of social redress; it lacks a coherent philosophy comprehending the acute contemporary experience of the collectivist revolutions in the East: of the evils of unemployment and poverty in the West. But no one can lead the peoples of this planet who does not lead them to progress; and Liberty, therefore, cannot be saved unless it again becomes a progressive idea. Those who have returned to its defence must now give it all their hearts and their gifted minds, to make it again a conquering faith. Only this can banish the anxiety of the struggle and make its suffering endurable; and only this can rally to their duties everywhere the forces of humanity which rightly owe allegiance to the cause of Liberty.

Looking back on these essays with this in mind, I am of course aware of their insignificance. But I know that they were at the time of their publication heard by some friends as one of the few stray voices opposing the prevailing progressive obsessions. They may be to-day of use to some who wish to retrace their steps and re-examine the course they have pursued. Therefore I decided to re-publish them, as documents of the time—without material alterations.

Mr. Colin Clark has given a detailed criticism of parts of my essay "U.S.S.R. Economics, etc.," in a little book which appeared last year (*A Critique of Russian Statistics*, 1939). However, after careful analysis of Mr. Clark's points which I had an opportunity to discuss with him by correspondence, I feel now that his re-examination of my work leads mainly to a confirmation of its principal results. I have preferred, therefore, not to correct, but only to point out, such mistakes as Mr. Clark has noted, and to discuss in detail only one point of his criticism, in which I do not quite agree with him. My thanks are due to the "Manchester School" for permission to reprint the first, third and fourth of these essays; the second, "Collectivist Planning," was given as a lecture to the South Place Ethical Society in April, 1940.

To the friends who helped me I send, by this little book, a message of thanks.

Manchester, June 3, 1940.

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RIGHTS AND DUTIES OF SCIENCE (1939)

The contention is sound that mind is a matter of degree; only it is a mistake to use the obviousness of this position to cast doubt on the higher degrees.—Bernard Bosanquet, *Three Chapters on the Nature of the Mind*.

IN the years following the World Crisis of 1929–33 a movement grew up in England, and to some extent also in the United States and France, putting forward a claim for the reconsideration of the position of science in the light of Marxist philosophy. More recently, it seems to me, this movement, while further gathering in breadth, is adopting a less orthodox attitude. It is trying to win the support also of non-Socialists, mainly by emphasizing that no restriction of the freedom of science is intended. The able and powerful treatise of Professor Bernal¹ represents this attitude. While he emphatically advocates Socialism, he does not suggest that scientists should join the Party, but only that they support the Popular Front (p. 404). His ruling passion is a profound resentment of delays in the achievement of plenitude, health, and enlightenment, to which, he believes, science even now holds the door open. To attain these he demands a reorganization of science on the basis of Marxist philosophy. Throughout he is guided by the doctrine: "The mode of production of the material means of life determines, in general, the social,

¹ *The Social Function of Science*. By J. D. Bernal. Routledge. Pp. xvi + 482. 12s. 6d.

political, and intellectual processes of life. It is not the consciousness of human beings that determines their existence, but, on the contrary, it is their social existence that determines their consciousness.”¹ He wants science to be re-organized so that it may consciously, and hence, in his view, more efficiently, fulfil its social functions as outlined by Marx in this quotation. This, he asserts, should not interfere with the freedom of science. In fact, he professes that the very essence of science is the spirit of free inquiry (p. 410); that science must be able and willing to defend its theses against all comers, not excluding but encouraging critics of all kinds (p. 278); that we should guard against the possible risk of restricting the freedom of science or limiting its imaginative possibilities (p. 261).

My purpose in this essay is to examine briefly the Marxist claims, and those of Professor Bernal in particular, for a radical reconsideration and re-adjustment of the duties of science, and the assurances, accompanying these claims, that they will not impair the vital rights of science.

SCIENCE : PURE AND APPLIED

The main points at issue are comprised in the relationship of pure and applied science; I will therefore deal with this relationship in some detail.

In Marxism a distinction between *pure science*, which seeks to find truth for its own sake, and the *application of science* to practical purposes is not admitted, because *all* intellectual processes are assumed to be equally determined by the mode of

¹ Karl Marx, *A Contribution to the Critique of Political Economy* (Preface).

production of the material means of life. The orthodox Marxist doctrine is correctly expressed by Dr. Ruhemann, in Appendix VII of Professor Bernal's book : " The view prevailing in the Soviet Union as to the social function of science is roughly as follows : In the U.S.S.R., as in all other countries, science is the product of economic conditions of society, and its social function is to benefit the ruling classes of society." (These classes in U.S.S.R. are said to comprise the vast majority of the people.) He continues : " In spite of this conscious interdependence of science and industry plenty of work is being done in the Soviet laboratories which would in Western Europe be termed ' pure science.' But this term is not required in the U.S.S.R., as it is unnecessary to justify curiosity regarding the laws of Nature with the help of idealistic doctrines."

The Marxist position was made especially clear to me by a talk with Bucharin in 1935. He explained that the distinction between pure and applied science made in capitalist countries was due only to the inner conflict of a type of society which deprived scientists of the consciousness of their social functions, thus creating in them the illusion of pure science. Accordingly, Bucharin said, the distinction between pure and applied science was inapplicable in the U.S.S.R. In his view this implied no limitation on the freedom of research ; scientists could follow their interests freely in the U.S.S.R., but owing to the complete internal harmony of Socialist society they would, in actual fact, inevitably be led to lines of research which would benefit the current Five Years' Plan. And accordingly comprehensive planning of all research was to be regarded merely as a conscious

confirmation of the pre-existing harmony of scientific and social aims.

Before discussing the position of Professor Bernal, which, although perhaps less intransigent in form than these orthodox Marxist statements, does not differ from them in effect, I will try to restate in some detail the liberal view—widely held, I believe—concerning the distinction between pure and applied science, and concerning the relation of science and society. To the Liberal science represents in the first place a body of valid ideas. The origin of their validity can be observed most clearly in the major branches of science, such as mathematics, physics, chemistry, biology. Each new addition to these branches is the product of a continued application of certain methods of thought and observation which are characteristic of the branch in question. The results obtained are incorporated into accepted knowledge only after they have passed the standard tests of recognized experts. Thus the methods by which a branch of science makes its new acquisitions ensure its own standards of validity. The methods of science also ensure that every new addition to knowledge should enlarge the organism of ideas to which it accedes. New findings, even though valid, are not considered interesting to science unless they are related to some of the fundamental ideas which govern its various branches, and can be shown to confirm, expand, or modify to some extent these guiding principles. It is, in fact, precisely in this sense that the Liberal regards science as a body of valid ideas. Science consists of autonomous branches, ruled by their several systems of ideas; each of these is continuously producing new minor

propositions suitable for scientific verification; and by these verifications they are being steadily strengthened and revised, in order to approximate more and more closely to truth.

Nothing has proved as permanent as these systems of science. Waves of civilization have come and gone over Mesopotamia, Egypt, and Europe, and while their creeds and laws, and often even their crafts, may have been forgotten, their contributions to systematic science have been preserved. It seems that an ordered framework of ideas in which each single part is borne out by the cohesion of the whole has a supreme attraction for the human mind. Struggling for a foothold in a shifting world, the mind clings persistently to these rare structures of sound and consistent ideas. It is in these structures, accordingly, that all scientific interest resides. No unconnected single fact, however momentous it may be, possesses any scientific interest. His own birth, his future death, the existence of the Universe, are supreme facts in a man's life; yet since they cannot be related scientifically to other data, they do not interest man as a scientist. This is not to say that the intrinsic interest of events is lost on the scientific mind. The more important an event is in itself, the more interesting is it to deal with scientifically. This is equally true whether the interest in the subject-matter is mainly contemplative or mainly practical. In fact, these two types will be often found blended in a general *human* interest, reflecting the essential connection of man's interest in the contemplation of his own nature and of his position in the Universe with his urge to dominate and draw profit from his surroundings.

But it is essential for the Liberal distinction between pure and applied science to keep steadily in mind that the direct appeal of a subject, however strong, does never in itself signify scientific interest. Although every moment of man's life depends on his handling of practical knowledge, yet none of this is science. A new-born child sucking his first meal makes use of practical knowledge of vital significance, and so does the constructor of a skyscraper or the surgeon opening a skull; yet none of this is science. No amount of ingenuity, be it conscious or instinctive, employed in the process of handling knowledge in these ways, can make it into science. In fact, so long as knowledge is merely viewed in its practical context, it can gain no scientific interest; and it acquires such interest only if and when its relations to one of the great schemes of ideas governing some branch of science can be clearly demonstrated. The scientific interest of such a demonstration consists entirely in the disclosure of the theoretical significance of the knowledge in question; but the practical value of the subject need not be forgotten in the process; its recollection will, on the contrary, quite justifiably enhance the interest in its scientific investigation.

Some kinds of practical knowledge are almost entirely empirical, while other kinds are more rational. The ancient crafts, such as beer-brewing and pottery, depended purely on experiment, while cases of reasoned industrial procedure are found rather among modern manufacturers in industries such as electrical and mechanical engineering and in the production of chemicals. Medical healing is even to-day almost entirely empirical, while surgery

is mostly rational. The difference between these two kinds of practice (which jointly play a part in varying proportions in all technical processes) clearly consists in their relation to extraneous experience. The empirical solution of a practical problem is mere guesswork, and its finding therefore 'constitutes a new discovery. The rational solution, on the other hand, makes use of previous experience to devise a new contrivance: its finding marks an invention in the modern sense of the word.

The experience on which the rational solutions of practical problems are based is, of course, mostly drawn from everyday life, or else from scientific knowledge which is so ancient as to have become almost generally known. But some inventions draw also on experience gained by scientific investigations dating from modern times—say, of the last few centuries—which is not yet taught in all schools. This type of work is done by scientifically trained inventors, who in the past fifty years have become responsible for an increasing part (the extent of which is customarily exaggerated) of the innovations in industrial practice. This is called the *application of science* to industry; and hence comes the term "applied science" in contrast to which *science* is then styled "pure science."

The existence of far-reaching mutual interactions between science and practical knowledge, and, in particular, between science and "applied science," should now be clear. The discoveries made by the empirical crafts often prove later to be interesting objects of scientific investigation ("stimulation of science by industry"); and, on the other hand, knowledge gained and stored up by science is widely

used by the modern inventor to contrive new processes and new apparatus ("application of science to industry"). But it should also be clear from our description of science as an organism of ideas that scientific research, which is the growth of the organism, cannot be deflected from its internal necessities by the prospects of useful applications—any more than the empirical search for a practical advantage can turn aside to consider what interest science might take in the result.

It is curious that the existence of common data, forming part of science as well as of industrial practice, should constantly lead to the suggestion that the progress of science and industry should be organized jointly, although the absurdity of harnessing together other pairs of occupations on such grounds would appear obvious. For example, the boring of mines and the excavation of railway tunnels both involve similar operations. Can they be combined? While tracing a tunnel can we be guided by the possibilities of using it as a mine? Or can we, while boring for minerals, give preference to places in which perhaps tunnels might be built later? Obviously not, because, generally speaking, while we are guided by the immediate considerations arising from one pattern of thought, we cannot give attention to the part which our object may perhaps play in a second entirely different pattern.

Reluctance to accept this fact, leading to attempts to direct research towards results of possible practical applicability, cannot lead to a growth of science which is of much value. A consistent policy conducted on these lines would actually stop the development of science altogether, turning, in effect,

the efforts now devoted to scientific research into attempts to discover empirical solutions for practical problems. If a line of compromise were chosen, leaving science "half free," the result is likely to be the stimulation of comparatively meagre investigations similar to those that are called forth nowadays by the large endowments given to special fields—as in the case of cancer research. I doubt whether these endowments have promoted to any considerable extent the scientific understanding or even the treatment of cancer, since the main progress concerning both has been achieved in principle by workers outside the domain of cancer endowments. This could not be otherwise, because "cancer research" does not form a branch of science based on a specific system of ideas. For all its practical interest, knowledge of cancer can advance only if and when the progress of physiology, biochemistry, cytology, and other branches of science, throws from time to time new light on one or other of its aspects—a process which cannot be appreciably hastened by the endowment of research on cancer. Moreover, all such progress is wholly derived from the freedom of the systematic branches of science to pursue their own specific scientific aims. If a policy of endowing research for practical aims were universally adopted, such benefit as any particular practical task now derives from the general progress of science would be altogether eliminated. Science would immediately come to a standstill and its practical applications would gradually become exhausted.

Hence the position assigned by Liberalism to science in society is this. Society cultivates science

as an organism of ideas which powerfully attracts the minds of intelligent people. Science as a whole, as well as the various branches of science, are valued for two combined reasons—the intrinsic appeal of the subject-matter and the power of the theoretical interpretation. Society cultivates science also in order to increase the store of knowledge available for practical application. Whichever of these motives prevails, the resulting endowment should always be given freely for science to pursue its own aim—namely, the further development of its several branches.

To the Liberal this position of science in society is a significant example of the principles of liberty. Science, munificently showering gifts on all men when allowed freely to pursue its own spiritual aims, but collapsing into barren torpor if required to serve the needs of society, makes a powerful argument for liberty. The argument can readily be extended to other systems of ideas which possess independent existence, forming systems of consistent ideas which can grow only in accordance with their own fundamental principles—I mean the whole spiritual realm of truth, justice, humaneness, beauty, and its organization in the forms of laws, politics, moral customs, arts, religion. The same reasons which cause science to be paralysed by any imposition of secular authority make all the wealth of this realm turn to dust the moment it is made subject to the demands of the State.

The Marxist doctrine of social determinism and the kindred teachings of Fascism, claiming that thought is the product of society and ought therefore to serve the State, remove all ground on which to con-

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solidate an authority to which man could justifiably appeal against the commands of the State. If on the other hand it is admitted that the realm of thought possesses its own life, then freedom is not only made possible, but its institution becomes a social necessity. Freedom is made *possible* by this doctrine because it implies that truth, justice, humaneness will stand above society, and hence the institutions which exist to cultivate these ideals, such as the Press, the law, the religions, will be safely established and available to receive complaints of all men against the State and, if need be, to oppose it. Freedom also becomes *necessary* because the State cannot maintain and augment the sphere of thought, which can live only in pursuit of its own internal necessities, unless it refrains from all attempts to dominate it and further undertakes to protect all men and women who would devote themselves to the service of thought from interference by their fellow-citizens, private or official—whether prompted by prejudice or guided by enlightened plans.

The position of science in society is thus seen to be merely a special feature of the position of thought in society. Its consideration is so important because it strikingly points to the general fact that society must cultivate thought and not attempt to dominate it—for fear of seeing it drowned in the morass of some eternally stagnant orthodoxy—and also because it shows how society, in order to perform this spiritual duty, must grant to its citizens freedom to devote themselves to the sphere of ideas and must secure them the right to appeal from its own commands to the superior judgment of this realm.

Such principles concerning the relation of science and society are, of course, familiar to Professor Bernal. In his chapter on "The Ideal of Pure Science" he presents them in a superb quotation from Thomas Henry Huxley, the greater part of which I reproduce here :—

" In fact the history of physical science teaches (and we cannot too carefully take the lesson to heart) that the practical advantages, attainable through its agency, never have been, and never will be, sufficiently attractive to men inspired by the inborn genius of the interpreter of Nature, to give them courage to undergo the toils and make the sacrifices which that calling required from its votaries. That which stirs their pulses is the love of knowledge and the joy of discovery of the causes of things sung by the old poet—the supreme delight of extending the realm of law and order ever farther towards the unattainable goals of the infinitely great and the infinitely small, between which our little race of life is run. In the course of this work, the physical philosopher, sometimes intentionally, much more often unintentionally, lights upon something which proves to be of practical value. Great is the rejoicing of those who are benefited thereby; and, for the moment, science is the Diana of all the craftsmen. But, even while the cries of jubilation resound and this flotsam and jetsam of the tide of investigation is being turned into the wages of workmen and the wealth of capitalists, the crest of the wave of scientific investigation is

far away on its course over the illimitable oceans of the unknown.

“ Thus, without for a moment pretending to despise the practical results of the improvement of natural knowledge, and its beneficial influence on material civilization, it might, I think, be admitted that the great ideas, some of which I have indicated, and the ethical spirit which I have endeavoured to sketch, in the few moments which remained at my disposal, constitute the real and permanent significance of natural knowledge.”

To which Professor Bernal adds the comment :—

“ In another sense the ideal of pure science was a form of snobbery, a sign of the scientist aping the don and the gentleman. An applied scientist must needs appear somewhat of a tradesman; he risked losing his amateur status. By insisting on science for its own sake the pure scientist repudiated the sordid material foundation on which his work is based.”

And discussing the ideal of pure science further, he finds that it makes science into a mere pastime like cross-word puzzles (p. 97), a game, which can give no full satisfaction for a life work. For such satisfaction “ men require that what they do has social importance as well ”; the more so since “ whatever the scientists themselves may think there is no economic system which is willing to pay scientists just to amuse themselves.”

Professor Bernal does not, of course, deny that in actual fact pure science exists as distinct from applied science. His book is full of most illuminating

information and discussion on this subject. Even in his own plans outlined in the chapter on "The Re-organization of Research" he recognizes that "the old sciences . . . like astronomy and chemistry have accumulated centuries of autonomous tradition; they have whole sections which are separate both from technical theory and from technical practice and develop to a considerable extent according to their own internal necessities" (p. 280). But the recognition is only *de facto*, not *de jure*; on the same page, when outlining scientific organizations, we read that their first stage "will be occupied mainly with what has been called pure, but should more accurately be called sophisticated, science."

Scornfully the Marxist rejects here any claim of science to be pursued merely for the sake of discovering truth. Although it is recognized that the desire to discover and to understand the external world is at present a motive to scientific endeavour, and though such a motive is even approved of as part of the disposition of the socially minded scientist of the future (pp. 97 and 273), it is thought absurd that any economic system would pay a scientist just to search for truth.

One is tempted to return the charge of snobbism: We scientists who know so well the delight of study, the excitement at the dawn of understanding, the profound satisfaction in mastering thought; we whose daily work is stirred by such emotions; we citizens of a scientific world solely concerned with work of this character; should we deny that other people than ourselves are also capable of enjoying the study and understanding of truth, the spectacle of its progress through discovery? That they can

feel sufficiently moved by their desire for enlightenment, by their admiration of science, to pay a fractional part of their incomes, amounting on the average to a farthing in the pound, in order to secure the continuation of research? Surely scientists cannot assume that they form a race apart governed throughout by motives which are quite absent in other human beings!

And yet this is precisely what the scornful rejection of the ideal of pure science by Marxists amounts to.

Curiously enough, Professor Bernal does not fail to point out that the great scientific controversies of the nineteenth century, such as that of evolution, were fought out in the field of ideas (p. 29). Nor would he deny, I am sure, the earlier great struggles between Church and Science in the sixteenth, seventeenth, and eighteenth centuries; and that all through the centuries from the Renaissance onwards, a wide general public was passionately concerned with these struggles (pp. 89 and 323). He also admits that in modern Britain there is a considerable popular interest in science (p. 87), and indicates that this interest is strongly directed towards contemplating the marvellous working of the universe, trying to extend the mind, as T. H. Huxley says, "towards the infinitely large and infinitely small"—but he treats such manifestations of popular scientific interest with contempt (pp. 87, 89, 229, 306). Instead of "meditating on the mysteries of the universe" people should read books in which "science is related to common human needs and aspirations," and for this he recommends repeatedly and emphatically (pp. 260, 360) the books of L. Hogben, in particular his *Science for the Citizen*.

This recommendation provides an opportunity to acknowledge the weightier nature of Professor Bernal's book compared with the writings of Professor Hogben, which belong to the same movement of thought. But in this particular connection Hogben's outlook would suit Bernal's contention. The idea repeatedly implied in *Science for the Citizen*, that certain discoveries were made "to measure" to satisfy certain social needs, is certainly the most radical attempt to extinguish all interest in the *object* of scientific discovery—which is the existence of certain laws of Nature. Who could, indeed, stay to ponder on the universe when he is told that the position of the earth as the centre of the universe was abandoned only when clockmakers found that they had to shorten their pendulums if exporting clocks to the tropics? ¹ May we not even abandon again, now that we all carry watches, the sophisticated idea of the earth going round the sun—as a useless meditation on the universe?

SCIENCE ORGANIZED TO PROMOTE WELFARE

But what is the purpose of all this trend of thought? The ironical belittling of the motive of science, the implied denial of a popular interest in knowledge for its own sake, the annoyance at the sight of its manifestations, the attempts to divert it into purely utilitarian channels—are all these professed only to fulfil the doctrine that "the modes of production

¹ "From the landman's point of view the earth remained at rest till it was discovered that pendulum clocks lose time if taken to places near the equator. After the invention of Huyghens the earth's axial motion was a socially necessary foundation for the colonial export of pendulum clocks."—*Science for the Citizen*, p. 232.

determine the intellectual processes of life"? Not altogether. The major force behind this attitude is the passionate desire to put science into the consciously organized service of human welfare. It is the demand for this adjustment of science to its social function which dominates the book and which precludes the acceptance of science for its own sake. To illustrate this we may quote this emphatic passage which refers to the reciprocal stimulation of science and industry:—

“This double process has indeed been taking place throughout the whole of the history of science. What has happened now is that we are just beginning to be aware of it and could replace the clumsy and casual adaptation of the structure of science to this double flow by a more consciously thought out scheme of what may be called a vertical organization of science. To a certain extent this has already been done in the Soviet Union. Indeed, the idea derives directly from Marxist thought, and is so obvious and true that the difficulty is not to justify it but to explain why people never saw it” (p. 279).

The institutions to which Professor Bernal wishes to entrust this new direction of science are similar to those in existence to-day, but they would assume new tasks. The academies would plan the fields of science in which research is to be conducted, seeking in consultation with industrialists to adjust science to its social functions. Though it is repeatedly stated that this scheme can become fully effective only under Socialism, it is implied that a start could be made before this state is achieved.

However, all the brilliant and instructive pages of the book have no answer to the question: how should the progress of science be directed in order that it may benefit human welfare? The process remains mysterious up to the end. On p. 415 we read the emphatic statement: "Science will come to be recognized as the chief factor in fundamental social change. . . . Science should provide a continuous series of unpredictable radical changes in the techniques [of the economic and social system]." But a moment later: "Whether these changes fit in or fail to fit in with human and social needs is the measure of how far science has been adjusted to its social functions." It is difficult enough to see how society can do anything to adjust what is admittedly unpredictable, to the service of its welfare. But still it might do its best, as Professor Bernal suggests, by favouring certain directions of research which are thought likely to produce the unpredictable. But the major question is still there. How can science, if it has to submit to adjustment of its social function at the hands of society, maintain its essence, the spirit of free inquiry?

Let us put the case concretely. It is generally accepted that in the last forty years physics has advanced on a scale which is unsurpassed in any previous period of similar length. This advance has, no doubt, enlarged the outlook of industrial physicists and has in many unspecifiable ways assisted them in their inventive tasks. But it seems to me that the only invention which may be said to have arisen directly from this era of discoveries is the electric discharge lamp which is now coming into use for the illumination of roads. Now the

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theory which has been utilized for this invention was built up between 1900 and 1912 in a series of giant strokes by Planck, Einstein, Rutherford, and Bohr. Suppose, then, that "the socialized, integrated, scientific world organization," the coming of which is prophesied by Professor Bernal (p. 409), had existed in 1900, with its "unified and co-ordinated, and, above all, conscious control of the whole of social life." How would this organization have "adjusted" the inclination of Planck, Einstein, Rutherford, and Bohr to discover the atomic theory to the increased need for street lighting which was to arise twenty years later in connection with the popular use of motor-cars, undreamed of in 1900? Would scientific world control have foreseen not merely this future need but also the fact that it might be satisfied by a discharge lamp based on the discoveries which were about to be made? And then the crucial question: Supposing the likely case that the scientific world controllers had *not* performed this miracle of foresight, would they then have had to reduce their support of the investigations which were leading to the discovery of atomic structure?

I think Professor Bernal will agree with pleasure that there is no scientist who would answer this last question in the affirmative. But then it would be admitted that Scientific World Control could do nothing better than public authorities do to-day—lending support to scientists of recognized ability to extend in any way that they think fit, ever further, T. H. Huxley's "realm of law and order." And this would amount to the complete abandoning of the planning of science for social purposes, and of the Marxist philosophy of science.

TRUTH OR PROPAGANDA ?

The fact that the main point which Professor Bernal raises is not once critically faced by him is characteristic of a propagandist attitude to which Marxist thinkers of the highest intellectual and moral qualifications succumb through their disbelief in the power of truth and their rejection of our duty to serve it for its own sake, which are taught by their philosophy. I will now show how this attitude, believing itself justified by a passion for human welfare in overriding the most elementary intellectual scruples, leads, in spite of all the accompanying protestations of loyalty to freedom of thought, inexorably to the result which its philosophy implies—namely, the approval of merciless oppression of intellectual liberty, if only it is perpetrated in pursuit of approved political aims.

Throughout the book capitalist institutions are relentlessly criticized. Fascism is violently exposed. Soviet Russia is constantly held up as an example to be followed. Any schoolboy knows that such comparisons are useless unless they include a discussion as to how far any particular evil of Capitalism or of Fascism is also present in the U.S.S.R. Another elementary rule of reasoning is to examine what possible disadvantages may have arisen in the U.S.S.R. in connection with the elimination of the evil under consideration. The complete omission of these simplest precautions is a characteristic of propaganda.

We are told at length how under Capitalism scientists are induced to conform with the general views prevailing in the State (p. 388), and that they might even feel unable to refuse assistance in war

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work for fear of losing their jobs (p. 387). That in psychology and the social sciences studies are greatly hindered by the fact that they "may be banned as tendentious, if they seem to imply that the world may be run in a different way" (p. 342); that teaching often shows a definite bias in favour of certain orthodox views, sometimes taking up the subtle form of pretence of a strictly scientific attitude (p. 259). All these things happen under Capitalism.

It is then vigorously emphasized that conditions under Fascism are infinitely worse. Here scientists who think for themselves outside their own fields are exposed to "sanctions" (p. 403). Social sciences are so grossly distorted as to be removed from scientific study altogether (p. 259), and psychology is in a similar position (R. A. Brady, quoted on p. 233). It is also particularly noted that "Italian scientists have been largely cut off from their fellow scientists abroad, partly on account of political unreliability and partly from lack of means to travel" (p. 211).

In the U.S.S.R., on the other hand, to which constant reference is made, as to the only example of the application of Marxism in practice, Professor Bernal finds nothing to criticize. Actually scientific thought is, I believe, nowhere oppressed so comprehensively as in the U.S.S.R., and this is due precisely to the fact that the thrust of violence is guided here by Marxism, which is a more intelligent and more complete philosophy of oppression than is either Italian or German Fascism. I will briefly outline the position.

The U.S.S.R. is the only country in the world which is dominated by an elaborate orthodoxy. The

writings of Marx, Engels, Lenin, and Stalin are all above criticism. Not only can none of their views be called into question, but any criticism of any detail of the enormous volume of publications by these authors, covering almost all conceivable subjects, would be considered as a counter-revolutionary act, punishable by death. The imposition of Marxism includes the compulsory acceptance of all writers approved by Marx or Engels; on these grounds authors as widely varied as Epicurus, Darwin, and Balzac are above criticism. The first because he was favourably discussed in Marx's doctoral dissertation, the last because Marx praised him in his private correspondence. This reference of Marx to Balzac has actually become the foundation of the literary doctrine of "Socialist Realism" now enforced in the U.S.S.R. "Socialist Realism," "Soviet classicism," are examples of modern Marxist doctrines, which are proclaimed from time to time by the party authorities. They are compulsory.

Up till 1932 the Communist way of discussing any theoretical problem of science, engineering, art, or society was to seek for a text in the then authoritative writings and Party lines which would apply to the case. In important questions the Party might intervene, giving a final decision absolutely binding to everyone.

The most important new scientific periodical of the U.S.S.R., which was started early in 1932 (*Zeitschrift für Physik der Sowjetunion*), contains an editorial preface mentioning the application of Dialectical Materialism to physics as one of the purposes of the new journal. Not one in a hundred physicists believed in this nonsense, but no one could

dare to contradict the statement publicly. A few months later the Party decided against the continued application in detail of Dialectical Materialism to the exact sciences. A number of essays were then exposed to ridicule by the Party organs. I quote a few of their titles from an account by Sydney and Beatrice Webb:¹ Marxism and Surgery, The Dialectics of Graded Steel, The Dialectics of an Internal Combustion Motor. A *Journal for Marxist-Leninist Natural Science* was published regularly, cultivating such branches of knowledge. Not before this lunacy was eventually abolished by the Party in the fifteenth year of the revolution could any scientist of the U.S.S.R. raise his voice against it.²

Dialectical Materialism remains, of course, beyond criticism in the U.S.S.R. This philosophy, which most scientists do not believe to have much more sense in its general form than in the above quoted special applications which were current until 1932, is still being thrust down the throat of Soviet scientists, who must not contradict. A report, couched in scholastic terms referring to the Soviet orthodoxy, of a discussion on a problem of genetics, which was conducted at the end of 1936 in the Lenin Academy of Natural Sciences, appeared in *Nature* (1937) 140, p. 296.

By a decree of the Communist Party dated July 4, 1936, the application of Binet-Simon intelligence tests to children was declared as a counter-revolu-

¹ S. and B. Webb. *Soviet Communism : A New Civilization*, p. 1000.

² A lone exception was made in favour of the famous Ivan P. Pavlov who was free at least to talk as he pleased. Pavlov died in 1936 at the age of 86. During the era of Stalin, beginning about 1927, his activities were naturally very limited by his age.

tionary science.¹ I quote after Lady Simon from *Moscow News*, September 23, 1936, a few words illustrating the inquisitorial atmosphere of a meeting in which the educationists concerned (called "pedologists") received this decree: "Most significant was the speech of Professor G. P. Blonsky. 'I personally feel the full weight of responsibility for the offences of pedology,' he said, 'I knew all along that bourgeois pedology does not accept the Marxist basis, but I continued using tests and measurements, which are a means of bolstering up the exploiting classes.' " Psycho-analysis is also banned in the U.S.S.R.; in none of its institutions is its teaching or its practice permitted.

Soviet scientists feel, I suppose, just what any other educated people would feel under this regime of intellectual dragooning. They are well paid, but nevertheless the Government does not let them go abroad, believing that many of them would prefer not to return. When permission to travel is granted to a scientist, his wife is retained in Russia to ensure his return. But it appears that for more than two years now not a single Soviet scientist has been allowed to cross the border. The precaution is not unreasonable. A few years ago V. N. Ipatieff, the best organic chemist of Russia, fled the country. He was followed to the United States by G. Gamow, the most successful Russian theoretical physicist. In respect of experimental physics the Soviets have been more fortunate. In September, 1934, they succeeded in capturing an eminent representative of this branch, Peter Kapitza, while he was staying

¹ Lady E. D. Simon. *Moscow in the Making*, 1937, p. 130.

in the U.S.S.R. on a holiday from Cambridge, where he held a professorship and had resided for many years. Many well-known young scientists have been imprisoned in the course of the last year, no one knows why or for how long. Their names can be mentioned only in a whisper. References to papers by such political outcasts are banned.¹

All this is quite well known, and should have been discussed by Professor Bernal—as showing the results of the only hitherto known large-scale attempt to adjust science to its social functions. It would have thrown light on the otherwise mysterious aspect of freedom in Socialism, as outlined for example in the emphatic statement on p. 381.—

“The freedom of the nineteenth century was a seeming thing. . . . In an integrated and conscious society this conception of freedom is bound to be replaced by another—*freedom as the understanding of necessity*. Each man will be free in so far as he realizes that he is taking a conscious and determinate part in a common enterprise. This kind of freedom is most difficult for us to understand and appreciate; indeed, it can only be appreciated to the full by living it.”

Dragooned into the lip service of a preposterous orthodoxy, harried by the crazy suspicions of omnipotent officials, arbitrarily imprisoned or in constant danger of such imprisonment, the scientist in Soviet Russia is told, from England, that the liberty which he enjoys can only be appreciated by living it. Since the terms of this liberty prevent him from

¹ See *Modern Quarterly*, 1938. Vol. 1, p. 371 footnote.

answering his British colleague, I have taken it upon me to point out the anomaly of the situation.

Unless we fully re-establish man's right to pursue truth regardless of social interests, and unless we again dedicate ourselves to the duty of this pursuit, such anomalies cannot be eliminated, but must go on growing into a suffocating tangle of fallacies; and presently this generation which was itself—in the phrase of Lionel Robbins—"betrayed beyond belief by those who should have been its intellectual leaders"—will find, too late, that it has opened wide the pass to the barbarians.

COLLECTIVIST PLANNING (1940)

The whole of society will have become a single office and a single factory with equality of work and equality of pay.

. . . we have a right to say with the fullest confidence that the expropriation of the capitalists will inevitably result in an enormous development of the productive forces of human society.—Lenin, *State and Revolution* (1917).

When I say we are stopping the economic retreat I do not want to suggest that I have for a moment forgotten the hellishly difficult conditions in which we find ourselves.—Lennn, *Report of the Central Committee* (March 1922).

THE great collectivist powers have established themselves by revolutionary forces, which, thrusting aside the claims of individualist liberties as ignoble and unintelligent rudiments of the past, heralded in an era of ruthless efficiency. In Russia the spearhead of the thrust was the demand for social justice, in Italy and Germany it was the demand for national power; but the difference was only one of emphasis, the result being a nationalist Socialism on the one hand, and a socialist Nationalism on the other. In either case a State was established which, in principle, assumes the complete responsibility for the culture and welfare of its citizens. This is totalitarianism; a regime absorbing the whole life of the people, who live by it and live for it entirely.

Many reject such predominance of the State yet admire the efficiency of collectivist methods. The idea of planning the whole cultural and economic life of a country from one centre has a profound appeal for the contemporary mind; it fascinates above all the intelligent, the energetic, the forward looking

minds, and makes them contemptuous of traditional individualist liberty.

Planning as opposed to aimless drifting is the natural inclination of a purposeful scientifically trained mind. Modern engineering is an inspiration to grandiose planning. The cutting of the great artificial waterways, the construction of modern dams and power stations, the erection of skyscrapers, the building of huge liners—these are the examples which fashion the engineers' approach to society. Here are great works achieved by forethought; a clear aim, a social good being recognized, a plan is conceived to attain it and an authority invested with the powers to carry it out. Why not deal in this way with society as a whole? The organization of production in modern factories also affords stirring examples of planned action. Hundreds of working phases must fit together with clockwork precision to result in a modern locomotive. The whole process is planned in every detail by hundreds of separate workshop drawings. No wonder that the energetic man of the factory manager type will think of social reform on similar lines.

Comprehensive, provident action appeals also to moral feelings. Both the unselfish servant of a great enterprise and the leader resolutely imposing his authority for the sake of the public good are dedicated to noble forms of action. A unified purpose, which lifts the whole State to a higher plane, gives comfort to the individual who puts his trust in it, and diffuses widely a sense of public duty. These moral values are prominent in war-time, in particular in modern war, with its complete regimentation of whole peoples, and accordingly war and war pre-

paration have been a constant source of inspiration for collectivism.

The military spirit is prevalent in the Fascist forms of collectivist planning; the Socialist form represented by Soviet planning has a more civilian outlook, being mainly influenced by American ideas of extreme mechanization and of large-scale construction and management. But technical enthusiasm, as represented by Futurism, also plays a part in Fascism; and on the other hand Lenin regarded the measures of rationing, commandeering, and industrial conscription taken in the World War of 1914-18 as pointers to Communism.¹ The Five Years' Plans have at all times been guided by military exigencies, to no less an extent than Germany's and Italy's economic regime

The more explicit and more extreme forms of planning are professed by Socialism, as represented by the Soviet Union. Their Five Years' Plans, in which every single branch of production is given its task by the central directing authority, have created a profound impression on our age, and are largely responsible for the popularity of planning in the Western countries. Less well known perhaps are the efforts made in Soviet Russia to plan cultural life and in particular the progress of Science. But these also are highly significant, as representing the fundamental claim of the Collectivist State to dominate all mental efforts for its own purposes. These claims have been widely reaffirmed and

¹ "We have received the means and weapons from the capitalist State at war—the grain monopoly, the bread cards, and the universal labour service."—Lenin, *Can the Bolsheviks Retain State Power?*, October, 1917 (*Selected Works*, Vol. 6, p. 269).

expounded in the West by Marxist scientists of eminent standing.

In this essay I will first try to lay bare the exact meaning of planning, as demonstrated by such obvious cases, as, for example, the planning of a military action. This analysis should show that planning is not the only method of ordering human affairs, and that the alternative method is *Supervision*, which is almost the opposite of planning, in that it ultimately relies on a multitude of individual initiatives which planning would subordinate to a central will. We will then observe the course of some attempts at collectivist cultural and economic planning, and will see how the authorities, after having failed in this direction, turn to the establishment of general oppressive supervision of people's lives—from which only a Liberal revolution can set them free again.

MILITARY EXAMPLES OF PLANNING

The largest organization directed to a single purpose, and firmly controlling all its members, has at all times been the army. When at war the State fights for its existence, and for this purpose it mobilizes the full power of its population. But the distribution of arms alone bestows but little military power on a people. An unorganized swarm of men advances blindly wherever it finds no resistance, or else where it succeeds in overcoming it; such an army is an easy prey to a skilfully operating opponent, who, by creating diversions, disperses its masses and destroys its disjointed parts, one after the other.

The power of an army, arising from its organization, lies in its capacity for planned manœuvres.

These are operations, executed at the orders of one man, the Commander-in-Chief, in which the various parts of the army are purposefully co-ordinated. The first precondition of manœuvring an army is, therefore, a division into parts, each under a separate subordinate commander, each of which can move independently of the others, at the directions of the C.-in-C. A manœuvre is the conjunction of such movements. In principle, then, the larger the number of sections into which the army is divided, the greater the complexity of the manœuvres of which it is capable. But actually this advantage cannot be increased indefinitely, because a complexity, which is too great to be comprehended by one man, cannot be utilized by its Commander; and an organization which tends towards such complexity will only cause confusion. The number of subdivisions which is found to reach the limit of the span controllable by one man is about five;¹ in what follows we will use this number for the sake of illustration.

An army, then, of say half a million men, divided into five army corps, marches on the enemy. Each corps is given its programme by the supreme commander; it fulfils a certain function in a movement conceived as a whole. Operations will, in general, try to fix the enemy at an awkward point, then to engage him fully where he is least prepared for it, and finally to throw in all reserves as a last hammer-blow against a vital position. All these movements are consistently planned and replanned—that is,

¹ For "Span of Control" in administration see Graicunas in *Papers on the Science of Administration*, edited by Luther Gulick and L. Urwick, Columbia University, 1937.

directed and co-ordinated—at every stage by the C.-in-C. The five corps form a joint instrument at his command, like the five fingers of a hand; their joint movements, precisely timed and placed, must fit together according to his intentions; these movements, quite meaningless in themselves, may gain in this conjunction the supreme power which military genius can impart to an army.

We see here the essence of comprehensive planning. A situation in which hundreds of thousands of men participate is reflected in the mind of one man, the leader, in a few bold outlines. If he is the right man the picture thus drawn will fully comprise the essence of the available military data, their complete joint significance. Based on this general aspect of the situation the leader conceives his plan, again in general outline only, and from stage to stage, as the campaign develops, he redraws his plans in similar terms, always preserving a general perspective.

It is the same in all kinds of planning; whether it is the planning of a house, of a machine, of a town, or even of a work of art; the simple terms of one general idea which can be conceived and handled by one man dominate a mass of details; the general idea is the plan, the details follow from it as its execution.

In the case which we are considering these details are filled in by the five corps commanders, in execution of the several programmes assigned to them by the chief. Each of these undertakes to solve, in accordance with prevailing circumstances, the definite task committed to him. The solution is issued by them in the form of sub-tasks to the divisions contained in the army corps; there will be four or five divisions to a corps. The division commanders reformulate the

sub-tasks assigned to them, in terms of tasks of the third order which they give to subordinate brigades. And thus the tasks go on branching out further, right down to the platoon and the private in the line. No stage adds anything to the original plan as conceived by the one man at the top, every further and further detail fits in to it, and has significance only as its execution; the plan does not change by being put into effect.

The chief directs his five army corps as wholes, not interfering with the way in which their commanders execute the tasks assigned to them in his plan; such interference would be beyond his capacities, since his full span of mental control is engaged already by the co-ordination of the five units as wholes. And as the plan branches out vertically in the course of its execution each commander in his turn sees below him only his four or five immediate subordinates, and their sections as wholes, the internal arrangements of each sub-section being left to the subordinate commander. Hence also reports, to be relevant to the superiors, must relegate internal affairs of the reporting unit to the background, emphasizing only its position as a whole. As reports are handed on upwards a summary is made at each stage, sieving out all that is irrelevant in this sense, so that finally the supreme chief receives only five brief reports from which he forms his comprehensive view of the military situation.

No authority can co-ordinate the movements of its subordinates, unless they obey its orders; discipline, therefore, is essential to planning. Some mutual contacts between equals under direction of the same command are, of course, necessary for an intelligent

execution of orders; but such contacts must not modify the plan which they are helping to execute.

In an organization acting according to plan there can be, therefore, only one channel for essential communications: the vertical line of authority, through which orders travel downwards and information is given upwards. To the extent to which lateral communications in the horizontal plane are permitted to affect the movement of those receiving them, planning is being relaxed; if lateral impulses become essential, planning will have ceased to take effect and the authority above, hitherto executing a plan, will change into an authority responsible for supervisory functions, as described in the next section of this essay.

We can illustrate the change over of a central power to a supervisory function in the case of military operations when, instead of freely manoeuvring troops, as described before, we consider trench warfare, with two lines of soldiers pressing against each other all along the border between warring territories. In such a battle of lines a breach made at any point in the opposing line is followed up by putting all reserves into action, first those locally available, then, as and when further successes are achieved, adding the reserves available farther and farther back, until the whole of the available forces may be absorbed by the action. Capt. Liddell Hart, describing this method of the "expanding torrent," remarks that its semi-automatic mechanism leaves the initiative to the lower commands, and these again leave it to their subordinates, so that the effect is an "anonymous battle." Marshal Foch many years before this

(when holding only the rank of a colonel) already noted with apprehension the possibility of future "wars of the line" in which the supreme command would be ineffective—since, as he says, the battles would be won by the private soldiers individually.¹

SUPERVISORY AUTHORITY

We have shown that the essence of planning is the absorption of the actions held under control by a single comprehensive scheme imposed from above. It is a co-ordination of these actions by means of vertical lines of authority which impose a specific task on each subordinate unit. As the lines of authority branch out at each successive stage of their downward course the scope of these tasks is narrowed down to an insignificant detail of the total operation. The plan is not communicated to the subordinate unit, which must not consider the general purpose in which it participates, but attend exclusively to the execution of the specific orders received. The subordinate, who is thus entirely cut off from the fundamental ideas which he is serving, is also separated from other subordinates in equal positions. Vital lines of vertical authority admit no direct horizontal contacts; two units on the same plane are connected only through the circuit of a slender thread where high up in the scale of the hierarchy there is a commander common to both.

These characteristics sharply distinguish the

¹ "Anonymous battle" and "expanding torrent" are described by Liddell Hart in *The Defence of Britain* (1939). For "battle of the line" see Foch, *The Science of War*. Other parts of this section are based on Foch's "unity of time and place" as the essence of manœuvre.

functions of a planning authority from those of a regulative or supervisory authority, the task of which is, in fact, of an almost opposite nature. Supervision presupposes human activities which are initiated from a great multitude of centres, and it aims at regulating these manifold impulses in conformity with their inherent purpose. It achieves this by making generally available social machinery and other regulated opportunities for independent action, and by letting all the individual agents interact through a medium of freely circulating ideas and information.

It is evident that such functions of public authority can be exercised only in a Liberal society to which the cultivation of widely dispersed sources of initiative is essential and in which mental communications are open throughout the community. Public supervisory powers are in fact the vital safeguards of independent forces of initiative in society, the integrity of which they are to protect against private corruption as well as against oppression by collectivist tendencies of the State. This is why collectivist thinkers ignore or deny the principles of supervisory authority.¹ They can see in supervision only a veiled method of domination which the collectivist State would achieve more honestly and efficiently by the method of straightforward planning. The true scope of supervision

¹ The cultivation of liberty under the law has been greatly clarified by Walter Lippmann in his *Good Society*. The collectivist denial of such a possibility was forcibly expressed by Lenin in *State and Revolution* (1917), approving of Engels, who "mercilessly ridiculed the absurdity of combining the words Freedom and State," and continuing: "While the State exists there is no freedom. When freedom exists there will be no State."

is therefore of crucial importance for the issue of social planning.

Supervision is in the first place the method by which the cultivation of things of the mind is regulated. We may see it at work—while avoiding for the moment any major issues—by observing the harmless case of the cultivation of chess. Chess organizations arrange contests, subsidize players, elucidate and codify the rules of the game, record advances in chess problems and chess moves, and generally encourage the discussion and dissemination of the theory of chess. In short, they do all in their power to provide the best opportunities for the practice and perfecting of chess-playing, but they would never think of directing the individual games of chess, which, indeed, would be a useless, if not altogether meaningless, thing to do, and would certainly not contribute to the cultivation of the game.

In a Liberal society there is a wide domain of activities in which ideas are cultivated under the supervision of organizations or public authorities. Artistic pursuits, religious worship, the administration of justice, scientific research are the main manifestations of the permanent principles to the cultivation of which such a society is pledged. Supervising authorities guard the occasions and regulate the channels for these manifestations, and they keep communications free for public discussion and instruction concerning them, but must not interfere with their substance.

When, for example, legal justice is administered, the State provides the machinery of the police, of the courts and prisons, and also sanctions legal

procedure and lays down the law to be applied, but it rigorously guards the decisions of the courts from public influence. The courts are sole masters of their conscience and interpretations under the law which they are required to apply, and as they make their decisions, these are instantly added as amplifications, valid throughout the land, to the law from which they have just been derived.

Thus, wherever permanent principles of society are cultivated under public supervision, the authorities set up machinery and lay down rules as channels for their manifestation, leaving it to individuals, who are called upon by virtue of their special gifts, or else just as ordinary citizens, to make use of these opportunities; to write, to preach, to address meetings, to give evidence in court, or to undertake any other of the numerous tasks which offer expression to general guiding principles. It is by the devotion of men and women to these tasks that the fundamental ideas cultivated by society are continuously elucidated and advanced. Under supervision the individual action springs forth from direct communion with the social heritage, and its outcome returns directly to the same common fund. This is in complete contrast to the way in which a subordinate unit obediently follows the lead of a single vertical line of authority, which keeps it ignorant of the general plans of those in command and at the same time isolates it entirely from its fellows placed under the same authority.

A further function of supervision lies in the economic field. It represents here the method for ordering the satisfaction of individual needs in

accordance with personal wishes. In so far as a State consents to grant such satisfaction—and none can entirely refuse it—it recognizes yet another field in which it submits to a diversity of decisions by a multitude of individuals. This field, therefore, cannot be managed by the imposition of a governmental plan, but must, on the contrary, be cultivated by a supervisory authority which assures the individuals of suitably regulated opportunities for giving effect to their desires. Supervision in the case of individual economic desires is embodied in the machinery of commerce, operating through the market which keeps commercial ideas and information in universal circulation. This machinery will be discussed later in more detail

Meanwhile we may sum up the position now reached. There are two alternative methods of ordering human affairs : Planning and Supervision. In an ordered society every activity which affects the community is either subordinated to an authoritative scheme or is, on the contrary, stimulated to individual manifestations under the protection of public supervision. As long as certain guiding principles—of truth, of justice, of religious faith, of decency and equity—are being cultivated, and as long as commerce is protected, the sphere of supervision will predominate and planning will be limited to isolated patches and streaks. Conversely, if comprehensive planning were to prevail, this would imply the abolition of both the cultivation of guiding principles and the pursuit of commerce, with all the liberties inherent in these forms of life. Hence collectivist revolution must aim at the destruction of liberty, and in particular must sup-

press the privileges under which Universities, Law Courts, Churches, and the Press are upholding their ideals, and attack the rights of individual enterprise under which trade is conducted.

This outline may be borne in mind while we pass on to describe some entanglements to which collectivist planning has led in practice. In the course of these we shall see the authorities recoiling at various points from the destruction of wealth and culture caused by their attempts at total planning, yet rallying to a general campaign of hostile supervision for the dragooning of the lives which they are unable to dominate—but dare not set free.

PLANNING OF SCIENCE

It is usually thought that a poem or a painting, or else a scientific discovery, springs from a unique mental situation which is entirely personal, and humanity used to respect such solitary inspiration.

But collectivists do not recognize the inherent autonomy of the creative act. For example, in science they would not be content that the State should provide opportunities for research, leaving the scientist to choose his own task, but would wish to subordinate scientific research to a general plan devised by a central authority. The isolation of various discoveries, they say, is only apparent; their results are found to fit together and to produce important joint consequences. Much better, therefore, that research should be consciously co-ordinated even while discovery is in progress.

In order to consider this collectivist suggestion I will survey the main facts of scientific life as it is conducted to-day.

The mental situation which produces scientific discovery is built up laboriously by the scientist through a number of years. From a general scientific education he tends at an early stage to turn towards a side which appeals to the play of his first tentative efforts. Roamings in this direction over various fields finally confirm an even more definite interest. Thus attracted, the young scientist comes in contact with the living masters of the selected branch, and may join the team of a research school. There follow years of study under a master's guidance, and of devotion of body and soul, day and night, to patient research work. As this goes on, the young scientist may begin to feel his way to independence. He has been settling down more and more to the type of work suitable to his special gifts, and intimations of the problems around him are now taking shape in his mind. These first intimations will probably be the humus from which his whole life's work will grow. As he follows one or the other of them the fascination becomes more intense, the preoccupation more passionate, and his mental position becomes more and more unique. He now sees daily such things as no one saw before him. He has established a new line of research, which is his own personal, his own vital contact with nature. On the inherent fruitfulness of this contact, as on his own skill and unfailing vigilance, will depend the discoveries which he will henceforth make.

Discoveries, as well as minor observations, are published as soon as they are sufficiently assured to be of use to other scientists. It is the scientist's ambition to secure credit by anticipating his rivals, but he is restrained from publishing preliminary

speculations or results which as yet lack confirmation, because these would cause more confusion than their useful stimulus might justify. The personal intuitive feelings, which are the most valuable element of the creative situation, cannot be appreciated by anyone but the most intimate associates, and are therefore not to be discussed in public.

Since thus from the moment of its birth all new knowledge becomes common property, the ground from which all lines of research take their origin is the same all over the planet. It is usual, therefore, to find lines which run parallel, as mental efforts, however intensely personal, are bound to do, when starting from identical premises. It happens every day that two men fall in love with the same woman from the very depth of their hearts; the course of creative imagination is determined by the objective situation in which it arises.

The mutual consistence between discoveries made simultaneously or in close succession to one another requires no explanation to those who recognize the existence of Truth. A statement which is part of Truth will always be consistent with another part of Truth; and both parts together will reveal a further, more comprehensive aspect of Truth. This is just as necessary as that two pieces which fit into neighbouring gaps of an unfinished jigsaw puzzle must also fit to one another.

We recognize here that a large number of independent activities can form a system of close co-operation. In fact we see that this type of co-operation must necessarily prevail if, as in the case of science, the workers all intercommunicate by rapidly publishing the results achieved in cultivating different

parts of the same major task. This is the co-operation of independent minds devoted to the pursuit of an aim which, though it is beyond the perception of any, yet is jointly guiding their several thoughts. It is the co-operation which arises by the pursuit of truth and other parts of human culture.

In the Liberal State the cultivation of science is a public concern, in the performance of which the community is guided by scientific public opinion. Recognized scientific ability forms a claim to official support, and new branches of knowledge are similarly taken up officially, once they are recognized by science. Thus science governs itself under the goodwill of Society. The State fulfils its supervisory duties by protecting and subsidizing science as a whole, while letting the administration of scientific affairs operate under the control of scientific opinion.

We can now take up in contrast with this the collectivist demand for a central planning of scientific research. In its logical form its meaning is quite clear; it says that, just as the head of a research department directs half a dozen collaborators who form his team, thus the whole of science ought to receive directions for its daily tasks from a central authority. Collectivists point out that the usefulness of team-work being proved by the case of the research school, there is no reason not to expand this method to the whole of science under a central authority.

To this must be objected that a small team of collaborators is merely an extension of the physical possibilities of the director of research; they help him in his experiments and carry out measurements

set up under his supervision. A leader of research who extends the number of collaborators to a point where he cannot actually see their experiments being performed, but has essentially to rely on their reports, is in danger of losing the solid ground of his work. Once he gives up wrestling at close quarters with the data of observation he relaxes his hold on reality, like a judge who has no time to examine witnesses and relies on hearsay evidence. Few scientists can do good work with more than a dozen personal collaborators, and there is in consequence no large scientific institution in the world the scientific work of which is directed by one scientist.

But what if, in spite of all such experience, the State, guided by collectivist passion, should nevertheless erect a central authority for the planning of science? What would be its function? Clearly the authority would first have to form a view of the position of science as a whole, then to conceive a plan for the progress of science as a whole; and to give orders to the different parts of science to advance according to this plan.

The information available to the central authority for establishing the position of science as a whole is the aggregate of available text-books and publications. This is accessible to everyone, but no one has yet been able to obtain from it a comprehensive conception of the position of science, nor any idea as to the direction in which it should advance as a whole. In fact these phrases are meaningless to a scientist, because it is of the essence of science, in contrast to scholastic speculation, that it advances piecemeal, by extending knowledge wherever discoveries can be made and not with reference to a

central problem. Science has emerged from mediæval scholasticism precisely by abandoning such comprehensive tasks as the search for the Philosopher's Stone and for the Elixir of Life, and by applying itself instead to specialized pieces of research, knowing that the parts of truth thus discovered must form a joint pattern in the end. A comprehensive view of science is a superficial and an ignorant view of all parts of science; it is a view which contains no working knowledge of science, and from which no suggestions for research can be made which would not be recognized by scientists at a glance as either impracticable or childishly mediocre.

Unless the central authority is prepared to go to the extreme of pressing suggestions of this kind on scientists, and thereby putting an end to all real research and replacing it by futile performances, it will have to give up the planning of science. But it may then try to save its face by calling on individual scientists to send in their own plans, which it would send back endorsed with its approval. This useless procedure has actually emerged in Soviet Russia, where, the initial attempt at centralized planning having failed, a system called "decentralized planning" was introduced on the above lines. The term "decentralized planning" is, however, contradictory. The essence of planning is unity achieved by control from a centre. The decision about what is to be done cannot be made both centrally and locally, and hence, if the essential decisions are local, the central decisions can be of no importance. The central authority can then retain only functions of a supervisory nature. How far the supervision entailed in this pretence of planning becomes oppressive

depends on the temper of the political situation and of the persons partaking in this procedure.

To assess this, we must remember that behind the pretence of planning there lurks the determined denial by collectivism of that independence of thought of which modern science is the child and the representative. In every politically difficult period, therefore, there is likely to come a sharpening of the conflict. Thus successive waves of suspicion rose up against the intelligentsia in the U.S.S.R. in the years 1918-20, 1927-30, and 1935-37, leading to persecution of every kind. Some of its members were imprisoned, others shot, the rest were forced to demonstrate their loyalty by fervent declarations in support of the official philosophy of the State. But naturally the more extravagant such declarations become, the less their sincerity is trusted by the authorities. Nothing can appease the collectivist, who knows that his victim cannot be sincere so long as he is oppressed, but who dare not set him free, well knowing that there can be no peace between collectivism and free thought.¹

¹ By a decree of November, 1926, the Communist Academy was constituted as the highest of All-Union learned institutions, charged with the strict advocacy of the standpoint of dialectical materialism both in the social and the natural sciences. Membership was confined to the party. The central planning of science having proved impracticable, "decentralization" was decreed in 1932, under which planning is delegated to individual scientific institutions (S. and B. Webb, *Soviet Communism*, pp. 959, 967, 969). This system is described by J. G. Crowther (*Manchester Guardian Commercial*, 2nd June, 1934) in connection with the Physico-Technical Institute of Kharkow: "Each department draws up a plan for work from January 1 to December 31 of each year. The plan is given in detail for each quarter, and there must even be a suggestion of what will be done on each day. At the end of each month, the research worker assesses what percentage he has accom-

ECONOMIC PLANNING

The classical aim of collectivism is the placing of all production and distribution under control of the

plished of his plan. This is usually about 80 per cent. to 90 per cent., and the assessments are notably honest. The workers in each department are organized as a team or brigade, and each holds frequent meetings to discuss its own work and the policy of the institute."

This disgusting comedy was, of course, only a pretence kept up for the satisfaction of official requirements; on my various visits to scientific institutions in the U.S.S.R. I never heard it mentioned except in contemptuous jokes; yet the procedure is reaffirmed in J. D. Bernal's *Social Functions of Science*, by Ruhemann in the Appendix (p. 447). The political atmosphere of this attempt to subject science to the orders of the authorities is characterized for the year 1930 by S. and B. Webb (*l.c.*, p. 553) as follows: "This much-discussed prosecution of Professor Ramzin and his colleagues inaugurated a veritable reign of terror against the intelligentsia. Nobody regarded himself as beyond suspicion. Men and women lived in daily dread of arrest. Thousands were sent on administrative exile to distant parts of the country. Evidence was not necessary. The title of engineer served as sufficient condemnation. The jails were filled. . . ." Meanwhile "the strengthening of the dictatorship in philosophy" by the imposition of dialectical materialism (J. G. Crowther, *Manchester Guardian*, 19th March, 1935) proceeded apace. Recent evidence of the type of ideological lip service by which eminent scientists were forced to propitiate the authorities was published by Professor A. V. Hill (*New Statesman*, 17th February, 1940) from the *Astronomical Journal* of the Soviet Union, December 1938 :—

"(1) Modern bourgeois cosmogony is in a state of deep ideological confusion resulting from its refusal to accept the only true dialectic-materialistic concept, namely, the infinity of the universe with respect to space as well as time.

"(2) The hostile work of the agents of Fascism, who at one time managed to penetrate to leading positions in certain astronomical and other institutions as well as in the press, has led to revolting propaganda of counter-revolutionary bourgeois ideology in the literature" . . . and so on.

At the outbreak of the present war a considerable number of scientists were kept imprisoned in the U.S.S.R. Though no mention of this is made in Marxist literature, it is involuntarily revealed in a footnote on p. 371 of the *Modern*

State. The resources of the community should be exploited not for commercial gain but according to a central plan which aims directly at the satisfaction of the needs of the population as ascertained by the authorities. To examine this programme I will first briefly summarize the principal features of economic life based on individual enterprise and individual choice.

Humanity living in society earns its livelihood by divided labour; hardly any human being could survive in Europe if each adult had to provide himself with his own shelter, clothing, and tools. In any case the population would be decimated and its residue levelled down to a brutish existence, if deprived of the device of divided labour. Such division implies the exchange of products between the producers, and as the division of labour becomes increasingly differentiated the exchange of products becomes more complex. To-day few of us consume anything that we produce ourselves; we live entirely by making things for others, or giving services to others, in order to receive from them in exchange the means of our livelihood. The process is performed by use of the market. On the market we sell our pro-

Quarterly (1938), which blandly mentions that the publication of a scientific bibliography was cancelled on account of the number of names included of scientists under political persecution. "In a bibliography of genetical literature which has been prepared, the publishing office pointed out that a number of names were included of scientific workers who had either been convicted of Trotskyism or who had long been resident in capitals such as Paris or Berlin. While it was not seriously contended that the work of such men must be so deeply vitiated by their political ideas or their residence abroad as to justify their original papers being omitted from the bibliography, the office could yet not bring itself to take the responsibility of publishing the full list, and the bibliography has not so far appeared."

duce, or else it is sold on our behalf by the manager of the firm or head of the institution in the work of which we participate. We spend the proceeds in the same market to cover our needs. Thus the total exchange takes place. Looking at it in greater detail, we should see the goods in the production of which we took part distributed among thousands of customers of our firm. Sometimes, being used as raw materials, they are handed on from the first customer, after being used in a process of manufacture, to a second set of customers, and often this process is repeated before the product is finally used up. And the connections established by our daily purchases are equally complex. In the course of a year we buy thousands of different types of merchandise and services which require for their production hundreds of different raw materials. Tracing these to their ultimate producers we should see that the most modest of us draws supplies from millions of his fellows on this planet. These supplies, we know, are received in exchange for what was distributed by ourselves, or on our behalf, as the product of our labour. Since our customers, to which this distribution went, are not the same people from whom we make our purchases, it follows that our outline of the circle of exchange is yet incomplete; that we have to add to it a series of exchanges between those to whom we sell and those from whom we buy. The entire multitude of all these exchanges, running into millions, are required to implement the existing division of labour, when any of us makes his living to-day. Selling and buying is by agreement. The sum of both is commerce, comprising all agreed exchanges which arise from the

division of labour. The State supervises commerce by controlling the standard forms of contracts through which it operates and by supporting the organization of markets which offer scope for public competition.

Apart from this production for individual use, there are, of course, provisions made by the authorities for communal use. Things which can be used only in common, like roads, town halls, and armaments, are obvious cases in point. But the modern State goes far beyond this in making common provisions : it considers, in particular, that the care for children, for the sick, the old, and the unemployed is a public concern, and it provides services for these from public funds. Wherever a comprehensive interest of society can be demonstrated, which is distinct from the sum of satisfactions given by the exchanges made through the market, there is a recognized obligation for the public authorities to safeguard it ; this, in general, will involve public expenditure and thus imply a certain amount of central economic functions. The great majority of human satisfactions are, however, of distinctly individual character, and are parcelled out through the market to individual consumers on a commercial basis.

Let us now turn to the idea of collectivist planned economy. This would base a system of divided labour with subsequent exchange of products not on the mutual agreement of those exchanging them, but on a plan based on a comprehensive view of economic life as a whole. Economic life, however, consists of the satisfaction gained by millions of individuals in thousands of different ways which

have no comprehensive meaning, such as can be given to millions of bricks shaped to a house or to millions of soldiers operating as an army. The compilation of statistics on objects consumed, comprising the number of handkerchiefs, spectacles, prayer books, and countless other kinds of merchandise, are as meaningless from this point of view as would be the valuation of the National Gallery by square yards of canvas or pounds of paint. Production statistics may be related to satisfaction so long as the market functions well enough to attribute comparative values to each item, but they mean next to nothing unless that condition is fulfilled. Those who try to interpret the statistics of the Soviet Union, where the market has not recovered from its periodic suppressions by the State, know how profoundly the significance of production-statistics has been impaired thereby. The prices given in roubles have become almost meaningless, and a laborious and uncertain process of reassessment of every available item by reference to British or American prices is necessary in order to obtain even a rough estimate of the value of production. In his *Critique of Russian Statistics* Mr. Colin Clark finds, in the course of an analysis of this kind, anomalies of Russian valuation which even within one group of articles of consumption amount to more than tenfold distortions of relative values. Assuming that no vestige of market valuation would be remembered nor be available in another country, it would be impossible to gather anything but the vaguest idea of the satisfaction which a certain list of goods gives or may give to a population. As in the case of science, the comprehensive view is not an essential view but

a superficial view and an ignorant view. From it not a single business proposition could be made which would not be rejected out of hand by any business man of special experience as grossly unprofitable, and which hence—in nine cases out of ten—would not also be grossly wasteful from the point of view of society as a whole.

Far from being able to summarize the essence of an economic situation independently of the autonomous exchanges which go on in the course of marketing, and to replace their operations by a comprehensive scheme of its own, the Government finds that all it can see of economic life is based on the valuations arising from these exchanges. While it might feel able to correct these valuations here and there, where the participants are taking a too narrow point of view, the Government must recognize that it has no comprehensive set of alternative valuations to replace them. It is unable, therefore, to remove the course of economic life from the essential control of individual agreements, and to subordinate it instead to a co-ordination according to a central plan of its own.

In view of this position, there are, as in the somewhat analogous case of the attempted planning of science, two courses open to the Government. The one is to give up actual planning and to content itself with a more or less oppressive supervision of the autonomous operations of commerce, while adding to this sphere of individual use, which will supply the main livelihood of the people, as many public works and services for communal use as possible. Or else it may take the ruthless course of imposing its determination to plan, at least to the extent that it

puts an end to all exchange by mutual agreement—by destroying the functions of the market. It may take over plants, and, refusing to sell their products, ration them out to consumers; it may make trading illegal and debase currency to the point of making the use of money impossible.

But, since the Government can possess no point of view of its own by which it could direct the millions of exchanges entailed in the maintenance of divided labour, its efforts to do this will be grossly ineffective. Therefore, if the suppression of the market is inexorably put into effect, the consequence is an almost complete stoppage in the exchange of goods, followed by a total breakdown of production and widespread famine, as occurred in 1921 in consequence of the measures by which the Soviet Government had paralysed trade.

SOVIET COMMUNISM

The attempt made in Russia twenty years ago to abolish the market broke down in disaster. “We have suffered,” said Lenin in 1921, “a defeat on the economic front more severe than any previous military reverse.” With this he gave the signal for that new economic policy which he called the great retreat from Communism. Its purpose was to readmit so much commercial life as was necessary to restore a minimum of prosperity, while at the same time systematically learning to use “capitalist methods” in the conduct of State enterprise.

The lesson which was then learned at the sacrifice of millions of lives that the market, far from being a

domain of anarchy, is the vital principle by which alone ordered co-operation can be maintained in a system of divided labour, ought to be a permanent acquisition of the human mind. It means that economic life by divided labour is a business to be settled mainly between the multitude of individuals dividing the labour between them, and that planning which would prevent this spells disaster.

Unfortunately this lesson was demonstrated under a dictatorship the political strength of which is nourished by a fanatical hatred of the market and a prophecy of salvation through its final destruction. Thus the surge of prosperity gained by re-admission of trading was a political peril to the Communist Government.

In order to reassert its waning power, the Soviet Government therefore again went on the offensive in 1927. Private shops and enterprises were again destroyed and a vast programme of State enterprises was launched. Three years after this a new economic disaster forced Stalin once more to a retreat. Again the market was re-introduced, but this time State ownership in industry and commerce was fully retained. Thus the experience of the Soviets has now proved that, even though the State is owner of all enterprises, it yet cannot decide on its own accord what to produce, but has to rely on the profitability of sales to indicate the usefulness of every particular activity. Commercial management is now revealed as far more fundamental than the system of ownership, which can vary widely while the market persists.

Clearly, for political reasons, the Soviet Government must do everything in its power to prevent

the honest recognition of this state of affairs.¹ Hence the confusion, the obscure war permeating its whole life. Production based on the individual efforts of the many State enterprises and the millions of peasant organizations could go on well enough and gradually restore a measure of prosperity. But the Government, intent on imposing its initiative on economic life, must ever again renew its spectacular efforts at huge investments. It must be constantly "showing off." Where the consequent dislocation causes confusion it suspects sabotage; to suppress it, it spreads terror, causing more confusion and creating further suspicion of sabotage, and so on. If, to prevent complete catastrophe, the Government then once more relaxes its hold, the wave of consequent recovery restores the position of a more or less free business life with an inherent tendency to escape from the control of the Government and to accumulate political power in opposition to it. Thus the struggle must be renewed; collectivist fanaticism fighting for its life against the necessity of the market and the independence which commerce restores in the people.²

¹ In a recent publication (*Two Systems: Socialist Economy and Capitalist Economy*; 1939; by Eugene Varga) the following official explanation is given by the Soviets. The transfer of products from one enterprise to another and to the final consumer is by sale and purchase (p. 97). But it is not competition which decides the price and it is not the prospect of profits which determines which goods are to be produced (p. 96). We are also told that planning is guided by the trend of purchase (p. 120) but no explanation is given as to how this is done, while disregarding profits. Actually nothing is mentioned about the way in which planning is accomplished except in a footnote which says that it is too complicated to be explained briefly (p. 225).

² The contention that the market should be used and combined with economic planning in the Socialist State has

THE RETURN OF LIBERALISM

Is it, then, time for Liberalism to return to the charge, with the fervour of its early intransigence, which it professed up to about seventy years ago, before beginning to give way to the growing claims of collectivist ideas? I believe this to be justified to a certain extent.

Extreme Liberalism in all its crudity is a source of material and moral blessings when it serves to release

become fairly common among the younger Socialist economists. The presentation of this doctrine in its recent and perhaps most able formulation by H. D. Dickinson (*Economics of Socialism*, 1940) vividly recalls the course of events in the Russian Revolution. At the beginning (pp. 14-15) there is an emphatic declaration of economic planning. A Supreme Economic Council will decide what is to be produced and to whom it is to be allocated, on the basis of a comprehensive survey of the economic system as a whole. "In the ultimate analysis the responsibility for economic decisions must be single and undivided . . . and . . . must create a deliberate conscious control of economic life." But as the torrent widens towards the ocean, we come (on page 222) to the following summary of the Socialist system in its final form. "In one or two matters, perhaps, considerations of social policy would be planned on their merits. (But even here the tendency would be to make specific grants to particular undertakings or to lay specific burdens upon particular branches of production, and then to leave them to the quasi-automatic working of market forces.) In all other matters, and in all questions of detail even within the special schemes, the normal indices of prices and cost would be decisive. The great majority of lines of production would be carried on automatically within the given framework of costs and prices so as to supply goods to consumers according to their preferences as indicated by the market."

The upraised fist of Moscow dissolves into the invisible hand of the old days. Unfortunately, in real life, once revolutionary powers are called forth to dominate every particle of the people's life, they do not renounce their position when realizing the necessity of free commerce. Their resistance keeps the State in perpetual struggle, within and without.

society from mediæval fetters or from paralysis by State-imposed restrictions of trade. The phenomenal success gained at the beginning of the nineteenth century by the opening of the channels of trade could be once more achieved to-day merely by wiping out the collectivist structure of industry and commerce in Russia, Germany, and the countries around them—along with a few hundred tariffs and exchange regulations all over the planet. Such a New Economic Policy, to call it by the name of the first retreat from collectivism in Russia, would bring an immeasurable increase of wealth and liberty to Europe. In this sense the revival of crude Liberalism would be as justified and desirable to-day as it was 150 years ago; but in this sense only. For a Liberalism which believes in preserving every evil consequence of free trading, and objects on principle to every sort of State enterprise, is contrary to the very principles of civilization.

The fact that certain individual actions are under public protection does not characterize them as *private affairs*. On the contrary; while it is true that private matters deserve protection, they require it only in exceptional cases, when they attract unjustifiable public interest and this interference or intolerance has to be averted. Public protection should, as a rule, be given to such individual actions in which there is a real public interest to preserve; and naturally not in disregard of the action's social consequences, but precisely because of them. Disregard of social consequences is equivalent to anarchy, which may amount to barbarism. The protection given to barbarous anarchy in the illusion of vindicating freedom, as demanded by the doctrine of

laissez faire, has been most effective in bringing contempt on the name of freedom; it sought to deprive it of all public conscience, and thereby supported the claim of Collectivism to be the sole guardian of social interests.

Liberalism was misled to extremism mainly by its failure to understand unemployment. It believed that this evil could be avoided by the prevalence of free trade. This view arose as a vague generalization of the theory of maximum benefit which is provided by an economic equilibrium, freely established. It was thus held that all measures reducing the income of the rich and increasing that of the poor must produce unemployment; and most of the other proverbially dismal and inhuman conclusions of economic science arose from this central error. Among them the most important, because most recent, was the attitude of Liberal economists to the last World Crisis, in which they maintained that it was the duty of the State not to interfere, if it did not wish to aggravate the depression. I believe that the adoption by Brüning in 1932 of a policy of retrenchment and deflation, conforming to this error of extreme Liberalism, was one of the most potent immediate reasons of the Nazi revolution, which might have been avoided by a policy of financial expansion, as inaugurated by Roosevelt a few months later.

There is an element of superstitious fear in the idea of orthodox Liberals that the market takes revenge on society for any interference with its mechanism, by inflicting on it the curse of unemployment, and this mystical element seems akin in its origin to the obsessions of collectivists about the evil powers of

the market. The orthodox Liberals maintain that, if the market is limited by the fixation of some of its elements, then it must cease to function, the implication being that there exists a logical system of complete *laissez faire*, the only rational alternative to which is collectivism. That is precisely the position which collectivists want us to take up when asserting that none of the evils of the market can be alleviated except by destroying the whole institution root and branch.

Instead of accepting this joint view of orthodox Liberals and collectivists, I consider that the alternative to the planning of cultural and economic life is not some inconceivable system of absolute *laissez faire* in which the State is supposed to wither away, but that the alternative is freedom under law and custom as laid down, and amended when necessary, by the State and public opinion. It is law, custom, and public opinion which ought to govern society in such a way that by the guidance of their principles the energies of individual exertions are sustained and limited. The benefits of culture in the form of science, of religion, of the arts, and of the manners of intercourse are developed by individuals protected by law and encouraged by the response of society. The division of labour and the many commercial devices for the exchange of products are all subject to law and custom; money is a legal invention, and so are all the forms of contract, of company laws, all the statutory forms of business life. Supervision is a positive, ancient, and fundamental responsibility of Society which it must accept with respect to every individual action affecting wider circles. In fact, civilization consists

mainly in the system of behaviour by the observance of which men and women will benefit rather than injure their fellows while pursuing their own personal interests in life.

General planning is wholesale destruction of freedom; cultural planning would be the end of all inspired enquiry, of every creative effort, and planned economy would make life into something between a universal monastery and a forced labour camp. Our aim must be not to destroy the mechanism of liberty but to amend it by renewing the rules and principles on which individuals are called upon to act. Common sense will not admit that the only alternative to unemployment, to unjust gains, and to undeserved poverty is to bind ourselves hand and foot, to gag our mouths and blindfold our eyes. But common sense will not be heard until we rid ourselves of magic beliefs. We must realize that planning, as applied to social affairs, does not in general mean order and intelligent foresight; and at the same time we have to reduce the market in our minds to its proper position of an element of social machinery, subordinate to our will, so long as it is used in conformity with its inherent mechanism.

A more sober approach may not in itself eliminate conflict, but it will replace conflicting obsessions for which there is no solution, by conflicting interests which admit of compromise and by rival valuations to be adjusted by mutual toleration.

SOVIET ECONOMICS—FACT AND THEORY (1935)

The chief gain in a substitution of political for economic power is that privilege is only a possible and not an inevitable concomitant of political power; and that it is not as easily transmitted by inheritance as economic power.—R. Niebuhr, *Moral Man and Immoral Society*.

I AM giving a rough outline of U.S.S.R. economics as I see it after repeated visits to the country, followed by a study of some most prominent official documents. While I claim no accuracy of detail, I feel that the outline is sufficiently certain to base reasonable conclusions on it. Practically all the data I have quoted are to be found in the publications listed in the Bibliography.

The present moment appears to be, for various reasons, a favourable one for taking stock of the achievements of the Russian Revolution. The consolidation of Stalin's dictatorship has drawn a clear line between Communism and Socialism, definitely instituting the latter and relegating the former to an uncertain future. The marked improvement in economic life during the last year or two makes one feel sure that this Socialism is to be a permanent result of the Revolution. A picture, drawn correctly at the present moment, may therefore possibly forecast the ultimate meaning of the Russian upheaval.

There is also a new technical point: the recent

introduction of a marketing system has made it much easier to review the economic situation. An open market for all consumers' goods is becoming the only channel of distribution. We can now estimate a price level and compute values in terms of money. Moreover, the rapid spreading of the market also seems to show the way to the establishment of a more definite economic system superseding the present inconsistencies.

The Communist Revolution broke out six months after the overthrow of the Tsar. In the course of this Revolution all means of production, including land and town dwelling-houses, became State property; trading was prohibited; every worker was to be provided with a ration of food and other goods; labour was to be militarized by general service; food was requisitioned from the peasants. Communism broke down in famine and was repealed by Lenin in March, 1921.

In 1921 Russia largely returned to private capitalism. The New Economic Policy left all but the main industries to private persons, thus restricting itself to a direct control of about 10 per cent. of production. Apart from this reservation the Communists reigned in a non-Socialist country, and lived on its revenues. The situation, which naturally could be an armistice only, was brought to an end by the year 1928. That year marks the starting date of the First Five Years' Plan, which is claimed to have been accomplished in four years and a quarter. Its period is officially counted from the last quarter of 1928 to 1932. The Second Five Years' Plan runs from 1933 to 1937.

I

THE SOCIAL BODY

Size and Constitution.

The 165 million inhabitants of the U.S.S.R. are sharply divided into a rural and an urban population. Of the 40 millions living in the towns, the vast majority are paid by the Government. They form the basis of its power and are engaged in administration, banking, trade, industry, postal, railway, and tramway services, teaching and health protection, newspapers, science, and arts; of these 5·5 million are office employees and 9 million factory workers. Another 3 million not fully occupied persons in the towns are in receipt of incomes from the State. Of these about 0·5 million are university students, and about 1·5 millions study part-time at technical schools. About 1 million who might be counted as disabled by illness, infirmity, or old age, are in receipt of subsidies. 1·5 millions of the townspeople form a separate economic organism; they are handicraft men, members of collective enterprises for tailoring, shoemaking, hairdressing, called *artels*, in which the workers are partners running the business on joint account. These 19 million earners provide for another 21 million dependants.

About 125 millions live in villages. A considerable section, about 10 millions, are State-paid workers and their dependants. More than half are on the State farms, the rest being mostly engaged in forestry and fishing. The rural population lives in 25 million farmsteads. By the end of 1934 70 per cent. of these farmsteads were collectivized, forming 230,000

Kolchoses, with an average of 75 farmsteads. Six to seven million farmsteads were still independent, but they are in the course of being merged in *Kolchoses*.

Food.

While the population of the U.S.S.R. exceeds by 30 per cent. the numbers inhabiting their territories before the war of 1914-18, the production of food has failed to keep pace with this increase. Grain-crops, which during the First Five Years' period had fallen low in consequence of internal struggles, have in 1933 and 1934 reached a level exceeding by 12 per cent. the pre-war production. In these years 90 million tons of grain ¹ were harvested as against 80 million tons in 1913. If, however, we consider that 10 million tons of grain were exported before 1914, while there is no exportation at present, we find that the grain provision per head of the population has again reached the pre-1914 level.

Most of the foodstuffs in the U.S.S.R. are made from cereals. The main accessories to this are potatoes, meat, fish, milk, linseed oil, and sunflower oil. Potatoes increased from about 20-25 million tons in 1913 to 51 million tons in 1930. Meat and milk production have greatly decreased owing to the slaughtering of live-stock during the period of collectivization. In 1933 there were 38.6 million cattle, 50.6 million sheep and goats, and 12.2 million pigs. This is about half the live-stock in 1916.

¹ The detailed figures given in million tons are : rye 20, wheat 30, barley 7, oats 19, corn 4; 10 million tons are not specified, they include millet and similar crops of lower value.

The yearly production of fish was 1·3 million tons in 1933.

No direct evidence is to be found for the net production of meat. An estimate can be based on the live-weight of slaughtered animals from cattle- and swine-raising State farms as compared with the stock of these farms. The average weight of slaughtered animals and the railway transport figures supply further evidence. On this basis an estimate of 1·5 million tons for the net meat production appears to be a liberal figure.

The above figure for cattle includes 19 million cows; since a cow in Soviet Russia produces an average of 700 litres of milk in a year,¹ the milk production must be about 13 million tons. Linseed production is as pre-1914, 0·7 million tons; in addition, 2·3 million tons of sunflower seeds were produced in 1933.

Considering the low nutritive value of potatoes, and especially their lack of protein and fat, the increased production of potatoes is more than offset by the decrease in meat and milk. On balance the nutritive value of food provided per head of the inhabitants of the U.S.S.R. has suffered a not inconsiderable reduction as compared with the pre-1914 level. Assuming that the whole of rye, wheat, barley, and oats are used for human food, while corn and other cereals are used for feeding animals, and deducting 12 per cent. for re-sowing of grain and potatoes, we obtain as the average daily ration of an inhabitant :—

¹ This remarkably low figure is given as an average for cows in State farms in 1933. (The average annual yield of a milch cow in Germany is 2,300 litres.)

	Grams.	Protein (digest- ible)	Fat grams.	Calories.
Grain	1,100	75	14	3,200
Potatoes	820	13	1	630
Dairy products (ex- pressed in milk) . .	110	4	4	85
Linseed oil and sunflower oil	11	—	11	105
Meat and fish	42	8	4	100
		100	34	4,120

The caloric value is ample and the protein quantity is almost adequate, but of inferior quality, while the fat ration is deficient; the slaughtering of live-stock has had a serious consequence in this respect, which it will take a considerable time to repair. On the whole the average ration, mainly consisting of cereals and potatoes, represents great poverty, which, however, is quite common, and is even greater in oriental populations, such as Japan's.

The figures calculated above happen to agree with the data obtained by a Soviet inquiry into the food consumption of a specific *Kolchos* in 1931. They are: proteins 113 g., fat 35 g., calories 3,800. It is stated by a Socialist writer who described the same village in 1907 that the food was then much poorer. It is obviously impossible to argue this point; all we can say is that the average food supply per capita was somewhat better in 1913 than it is now, and that it was very poor at any time.¹

¹ Colin Clark (*Critique of Russian Statistics*, p. 10) confirms that the food consumption per head in 1934 was much reduced as compared with 1913, and estimated the fall at 30 per cent. from a value of 49.6 pence per week (in British prices of 1934) to a value of 38 pence. This figure stands 30 per cent. below that found by Sir John Orr for the worst fed 10 per cent. of the British population.

Collective Food Production and State Levy.

The description of two villages, Nowo-Shiwotinoje and Mochowatka, before and after the revolution, which gives the data to which reference has just been made, is a helpful document. The villages lie in the fertile district of Woronesh near the Don, not far east of Charkow. Their *Kolchoses* "Red October" and "For the Soviet Power" have earned distinction for their successes. From the data given we find that the State levy on grain in 1931 was more than 42 per cent., and in 1932 more than 56 per cent. of the net production.¹ For 1933 Stalin states that the levy raised from collective farms alone was more than 16½ million tons. In this year of much improved harvest this levy corresponded to 26 per cent. of the gross production, or (making, as above, a deduction of 25 per cent. for re-sowing and feeding) 35 per cent. of the net production.

While a considerable part of the grain production is thus taken (without compensation) from the land, mainly to feed the 40 million townspeople, potatoes and milk are mostly left to the farmers. In consequence they concentrate their efforts on their little private plots of land (0.25–1 hectare), which by law are given to them and on which they grow potatoes. A valuable source of food is the cow—which each *Kolchos* family is permitted to own and about 60 per cent. of the families actually possess—for it yields

According to Mr. Clark it increased only slightly up to 1937, which is the last year on record. Mr. Clark rightly points out that my estimates for bread and potato consumption are too high.

¹ The gram freights of these years give support to a generalization of these figures.

about 2 litres of milk per day. When in pursuance of the Government order of August 18, 1935, thirteen of eighteen families not owning a cow were each presented with a calf by the *Kolchos* "Red October," a woman burst into tears, saying: "We never dreamt that we would yet become prosperous farmers!"

The description of Nowo-Shiwotinnaje and Mochowatka shows that even in a successful *Kolchos* the peasants give more than half their work to their private plots and derive about half their food from them.

Food in Towns.

The urban population is fed mostly on bread and other cereal products. The bread is mainly from rye and wheat, the milling being 95-97 per cent. in both cases.¹ The price of this bread is fixed by the State. In Moscow 1 kg of rye bread costs 1 rouble; 1 kg. of wheat bread costs 1.1 roubles. The same price is fixed for all the more important parts of the U.S.S.R. Other foodstuffs can be bought directly from the peasants or at identical prices from Government stores. The price level for these marketed foodstuffs corresponds approximately to present British prices, if 10 roubles are taken as an equivalent to 1 shilling.²

¹ In England milling flour is about 68 per cent.; during the war of 1914-18 milling was tentatively increased in England up to 90 per cent.

² This equation holds for meat, white bread, butter, eggs, and fat, and finds support in the value of the "Torgsm" coupons. (See footnote on page 73.)

Income from Agriculture.

An estimate of the pre-war (1913) national income of the territories of the U S S.R., quoted by Soviet authorities, amounts to 20 thousand million roubles, corresponding to about £2,100 millions at pre-war parity, and about the same figure at the present day. Of this amount, 11·6 thousand million roubles—*i.e.* £1,200 millions—were derived from agriculture. We cannot analyse this estimate here, but it is easily seen that it is in harmony with the figures given above for the agricultural production.

Housing in Villages.

The 25 million farmhouses, in which about 125 million peasants live, shelter an average of five persons. The Russian term *isba* is mostly translated as "hut," and in general this is an appropriate term. A description of Nowo-Shiwotinnioje and Mochowatka, dated 1901, informs us that 70 per cent. of the *isbas* measured 21 square metres (225 sq. feet), the others being somewhat larger. The average occupancy of these *isbas* was then seven. The new *isbas* built in these villages during the following twenty-five years were somewhat larger and of better quality. The number increased from 167 (1901) to 225 (1926). The *isbas* of which the floors were naked earth numbered 83 in 1901 and 81 in 1926. But while only two *isbas* had four windows in 1901, there were 20 such huts in 1926. The wooden huts decreased from 63 to 32, the others being built of stone and bricks. Thatched roofs were generally replaced by roofs of iron sheet.

From 1927 up to 1933 no construction of new

dwelling-houses is reported in this account. In the period of strife which accompanied collectivization there seems to have been little dwelling-house construction in any of the rural parts of the U.S.S.R. Since, however, the increase of population was during this time largely taken up by the cities, there was no very considerable increase in the rural population either. Taking the *isbas* of the two villages described in the account as a fair example of rural dwelling-houses in general, we estimate that a Russian *isba* to-day gives a shelter of about 4 sq. metres per head, as against 3-3.5 sq. metres per head at the opening of the century.

Housing in Towns.

Up to the commencement of the First Five Years' Plan the population of the cities had increased by 3 millions as compared with 1914. The figures were 24.7 millions (1914) and 27.6 millions (1926). Housing conditions had considerably deteriorated owing to the decay of town houses during the revolution. In 1928 the dwelling floor space was 162 million sq. metres, giving about 6 sq. metres per head. In a number of industrial districts the housing conditions of the workers are reported to have been very much worse than the average—namely, 3 sq. metres per head of the population. The Five Years' Plan looked to an increase of the town population by 7 millions and intended an increase of 42 million sq. metres. The actual increase of town population during the Five Years' Plan period was by 11 millions (to 38.7 millions), whereas only 22 million sq. metres were built. The result was a reduction of the floor space per capita to less than 5 sq. metres per head.

Thus the housing of the workers, which, according to a Soviet writer, was in 1928 "more terrible than those described by Engels during the Industrial Revolution in England," suffered a drastic deterioration during the following four years. The Second Five Years' Plan holds out the hope of an increase of the floor space per capita by 15 per cent. Official sources complain of the poor quality of the new buildings, as well as of the still unrepaired condition of many old houses. On the whole, the average housing in the towns seems to be but little better than the shelter given by *isbas*.

Wages and Urban Income.

The average monthly wage of a State-paid person is given for 1933 at 130 roubles; the average monthly wage for a factory worker being 127 roubles. Figures given for 1934 with respect to heavy industries show that the wage level did not alter in that year. Recently, however, an increase of the pay-roll by 4.2 billion roubles was made, accompanying the abolition of the bread card and as a compensation for the increased expenditure on bread. This sum spread over 23 million State-paid persons gives an addition of 15 roubles to the average monthly wage. The industrial workers' average wage is now 142 roubles per month. On the average a holiday of 15 days is granted to a worker every year.

The following table gives an estimate of the various items of expenditure covered by this wage. I have also attempted to estimate the cost at which the same or similar goods and services as purchased by the factory worker in the U.S.S.R. might be obtained in England.

MONTHLY INCOME AND EXPENDITURE OF A FACTORY WORKER (AND ONE DEPENDANT) IN U.S.S.R.

Heading.	Roubles	Value in Great Britain.
		<i>s. d.</i>
1. Deduction for State loan ¹ .	7	
2. Rent for 10 sq. metres of dwelling floor space ² .	5	12 0 ³
3. 30 × 3 fares at 10 kopeks .	9	3 0 ⁴
4. 25 meals in the factory at 70 kopeks	18	12 6 (assuming 6 <i>d.</i> per meal)
5 30 daily rations of bread (96 per cent milling) = 30 × 1 5 kg. at 1 rouble .	45	11 0 (assuming 3 <i>d.</i> per kg.)
6. Fuel for heating 10 sq. metres of floor space, fuel for cooking, and lighting	8	4 0 ⁵
7. (a) Food other than bread .	—	
(b) Industrial commodities .	—	
(c) Books and newspapers .	50	10 0 (<i>vide infra</i>)
	142	52 6

¹ Calculated from increase of State loan holdings by State-paid persons between January 1, 1932, and January 1, 1933.

² Average urban dwelling floor space for two persons.

³ Assuming average monthly rent of worker's family (three persons) in Great Britain at 44*s.* and assuming that the family occupies 36 sq. metres of dwelling floor space (three rooms plus landings, lobbies, bathroom, etc.), the monthly rent for 10 sq. metres is 12*s.*

⁴ Average weekly fares for worker's family of three persons is 1*s.*; the expenditure is low, on account of wide use of bicycles.

⁵ Average expenditure for family of four persons 4*s.* per week. The figure in the table is obtained by assuming as above 13 sq. metres average floor space per person.

The last item of 50 roubles, which I have valued at 10*s.*, is of special importance, since it includes all purchases of industrial manufactured commodities. I have already mentioned that for other food than

bread in April, 1935, the rouble buying power was expressed by the equation 10 roubles = 1s. The same equation holds on the average for manufactured commodities purchased in the warehouses. However, there is still some distribution of manufactured goods through the now rapidly disappearing co-operative shops. At the same time the price level in the open shops shows a falling tendency. I have therefore given the 53 roubles the value of 10s., thus adding a margin which may also cover the reduced cost of the post office, train service, cheap theatre tickets, and the like.¹

The estimated monthly wage of 52s. 6d. is about the same as the average pre-1914 wage, which is stated to have been 24 roubles = 50s. For incomes below the average the value per rouble would be somewhat higher than for the average wage; for incomes exceeding the average the value of the rouble is somewhat lower; this, however, is largely offset by the various benefits not included in the salary, such as those derived from private earnings or from privileges connected with higher official positions, like free motor-cars, extra pay on official journeys, and various similar items.²

¹ In the "Torgsin" shops, in which prices are on a gold basis, the price level is about that of gold prices in England; "coupons" of these shops are traded (illegally) at $\frac{1}{30}$ of their gold value.

² Mr. Clark, in his book quoted above, revises this valuation and arrives at an estimate of the British equivalent of a Soviet worker's monthly income in 1934, amounting to 70s. 4d. instead of 52s. 6d. In his comparison of this wage with the pre-1914 level Mr. Clark takes into account the change in prices which brings the real value again, as in my calculation, to about pre-1914 level. I cannot, however, agree to Mr. Clark's valuation of Russian black bread which he equates with the British loaf. Flour of 95

The average monthly income of all State-paid persons might, therefore, be estimated at 50s.-60s., making a total of about £800 millions per annum for the whole of the 23 million State-paid persons. Assuming the same average income for the 1.5 million craftsmen of the *artels*, we have to add £55 millions for these. The total of £855 millions should not be simply added to the agricultural income estimated at £1,200 millions, since 2.5 million State-paid persons are engaged in agriculture. Allowing for this by a slight deduction, we estimate the national income, exclusive of savings which are included in the expenditure on heavy industrial products, at about £2,000 millions.

Supposing that the pre-1914 investment rate was 10 per cent. of the national income, the pre-1914 consumed income would be £2,100 millions (see above) minus £200 millions—*i.e.* £1,900 millions. The present income of the consumers appears higher than pre-1914 by less than the increase of population, but the difference lies well within the limits of error. Per head of the urban population (40 millions) the

per cent. to 97 per cent. milling cannot be valued as flour of 68 per cent. milling. Actually the price of black bread in U.S.S.R. was in 1938 0.83 rouble, as compared with 2.80 rouble for grey (wheat or rye) bread (de Hevesy, *World Wheat Planning*, 1940). I disagree also with the inclusion by Mr. Clark of 10s. for fares in the real income of a worker, and would maintain my own estimate, based on the view that fares spent on journeys to place of work should, in general, be considered as parts of the costs of production contributed by the worker. Accepting the other corrections of Mr. Clark, I would now estimate a figure of 60s. instead of 52s. 6d. Considering the large fall from 1914 to 1934 in the average food consumption of Russia it is not surprising that this wage, when changes in price level are taken into account, is found to be below the pre-1914 standard.

income is one of about £20 per year, as against about £9 for the rural population. (The latter figure includes a deduction of 25 per cent of the grain levy.) The relation of these estimated incomes happens to agree with the estimate of the State Planning Commission (1933), stating that peasants and collective farmers drawn into industry have raised their living standards by 150—200 per cent.

Consumption of Industrial Manufactured Commodities.

Ten shillings is the margin for the monthly expenditure of average State-paid persons, which includes, besides a number of other items, all purchases of industrial manufactured commodities. Assuming for the moment that all this sum is spent on such commodities, we obtain £120 millions as a (very liberal) estimate for the total value of industrial manufactured goods consumed by the State-paid population in towns (36 millions) and by the *artel* population (3 millions). In rural districts the retail trade turnover in 1933 is stated to have been 13 billion roubles. Assuming that all this sum was spent on manufactured commodities, and taking the upper limit for the purchasing power of the rouble as 10 roubles = 2s., the purchases by the rural population of manufactured goods would be £130 millions.

For the upper limit for the total quantity of industrial manufactured goods consumed by private persons in the U.S.S.R. we thus obtain £250 millions. To this must be added, if we want to assess the production of such goods, the provisions for the army, overalls provided by factories, paper consumed in offices, and the like. The total production might be around £300 millions. This estimate is in

harmony with the production figures of "light industries," clothing being mainly provided for by 2,300 million metres of cotton cloth.

Health Protection.

In the U.S.S.R. insurance providing for disablement and health protection is wholly paid by the State, thus forming an addition to salaries. Considerable efforts have been made to improve the appalling health conditions of pre-1914 Russia. The number of doctors has increased from 20,000 (1913) to 76,000 in 1933. The number of hospital beds (exclusive of asylums) per 1,000 of the population has increased from 1.26 to 2.5. In the cities the increase is from 3.6 to 5.4, in rural parts from 0.4 to 1.2. These latter figures are, of course, still very low; in Germany there are seven beds per 1,000 of the population, and 48,000 doctors for a population numbering 40 per cent. of that of the U.S.S.R.

But in this matter, more than anywhere else, it is the quality that counts. For obvious reasons no country can afford to nurse its sick at a standard greatly above the general level. The death-rate of the U.S.S.R. shows how poor are the effects of its health protection. From the age distribution curve for January 1, 1931, we can see that the birth-rate was still above 40 per 1,000. At the same time the population was increasing at the rate of 18 per 1,000, thus showing a crude death-rate of more than 22 per 1,000. No death-rate in Europe reaches this figure, the next one being Rumania, with 19.6 (crude death-rate of England and Wales, 12.3 for 1931). Considering the very favourable age distribution of

the U.S.S.R. as compared with Western countries, the standardized death-rate must be more than twice as high as it is in these countries.

Education.

From 1920-21 till the beginning of the Five Years' Period in 1927-28 the number of schools for elementary and secondary teaching did not increase in the U.S.S.R. From 118,000 (1920-21) the number fell, reaching its lowest figure in 1923-24 at 90,000; the subsequent recovery brought the number back to 118,000 in 1927-28. Starting from this point a new effort was made, bringing up the number to 167,000 in 1932-33. In 1920-21 the number of pupils in elementary and secondary schools was 9·8 millions; in 1927-28 it had increased to 11·3 millions. Of these, 3·6 millions were in towns and 7·7 millions in rural parts. Subsequently, the number of school children in towns increased to 4·9 millions, corresponding to about the increase in population, while in rural parts the number almost doubled, from 7·7 millions to 14·6 millions.

Since the number of school children in 1932-33 is nearly equal to the total number of children of their age, we might describe the change by saying that, while at the beginning of the new period only half of the children in the villages were attending school, subsequently about 30,000 new village schools were built and the other half of the children were also sent to school. The efficiency of this important work was certainly handicapped by the poverty of village conditions. A further serious disadvantage arose from the forcible introduction of various new teaching methods, which have recently

been discarded and exposed to public derision by Soviet leaders.

Higher education has also been considerably developed. The number of students in universities and engineering colleges increased from 91,000 (1915) to 470,000 (1933), the latter figure being per head of the population somewhat higher than that of the Western countries. In such matters, however, statistics prove only an effort, not an achievement. But no observer will fail to confirm that acting in the people of the U.S.S.R. there is a powerful will to learn. This is greatly encouraged by the Government providing for the maintenance of students, and even more by paying much higher salaries for all work requiring a long training.

Heavy Industries.

Our review has shown us that the production of consumers' goods in U.S.S.R. is very much the same as it was twenty years ago. This is definitely not so with regard to the production of industrial raw materials and machinery. The table on the next page shows the items which can be estimated by quantities, comparing the level of 1927-28, which was about the same as the pre-1914 level, with the production of 1934. An estimate of values is given in present prices.

The table includes all the products of heavy industries, the value of which can be estimated with some accuracy. The value of the products not listed can be only roughly estimated judging by the price level at which the rouble values are given. From this evidence the upper limit for the total value of the heavy industries appears to be about £700

millions, of which £550 millions form the increment achieved since 1927-28.¹

Although this is a very considerable sum, it may

HEAVY INDUSTRY IN 1934 AND IN 1927-28

	1934.		1927-28.	
		Value in million £ ²	Quantities in same units as for 1934.	Value in million £ at same prices as for 1934.
Coal (mill. tons) .	92 ²	62.5	35.4	26.5
Oil (mill. tons) .	25.6	73	11.7	33
Pig iron (mill. tons) .	10.4	22.3	3.3	7.5
Steel (mill. tons) .	9.5	18.5	4.2	8.8
Rolled steel (mill. tons) .	7.0	19.3	3.7	10.1
Electricity (billion Kwh.) .	21	25.5	5.1	7.1
Copper (thousand tons) .	53	1.8	28	0.9
Zinc (thousand tons) .	27	0.4	3	—
Tractors (in thousands) .	93	14	—	—
Motor cars and trucks (in thousands) .	72	16	—	—
		253		94

¹ Confirmed by C. Clark, loc. cit., pp. 36-40.

² The following prices were assumed: Coal 15s. per ton, brown coal 3s. per ton, pig iron £3 4 per ton, steel £5.5 per ton, rolled steel £8.25 per ton, oil 57s. per ton (American price), copper £34 per ton, zinc £15 per ton; 1 Kwh. = 0.3d.; tractors and motor-cars were valued at British prices after consideration of the specification given in the official statistics. From the value of rolled steel a deduction was made of the value of an equal quantity of steel; the value of an equivalent of pig iron was deducted from the value of steel; from the value of pig iron a deduction was made for 19 million tons of coal, corresponding to the amount of coke (14 million tons) which is stated to have been used for iron-smelting. No deduction is made for the fuel used up in producing electricity.

² Of this about 11 million tons were brown coals.

seem only a small estimate for the result of that most impressive campaign of investment, carried on in the First Five Years' Plan. It may be noted, however, that the whole of the imported machinery invested in heavy industries since 1927-28, which, according to Soviet statements, forms a considerable part of its new installations, was worth not more than £100 millions.

II

THE ECONOMIC SYSTEM

Planning.

Planned economy is a corollary of Communism. If everybody is to get his ration according to his needs and work according to his best abilities, then the State has to determine these needs and to secure their satisfaction by setting each worker to his task. As Stalin has pointed out, such a system of planning would be a task too vast to undertake for a long time yet. In fact, a system of planned economy has never been attempted in U.S.S.R. since the repeal of Communism in 1921. For one thing, as Stalin bluntly admits, there has never been a proper distributive system at all, and it is for this reason that he proposes to build up Soviet trading.

The First and Second Five Years' Plans are not systems of planned economy but merely systems of planned production, and even this is an overstatement for no great stress is laid on the systematic nature of the plan. Changes in the plans are frequent and are enthusiastically applauded, if they extend the original programme of production. Any production exceeding the plan is acclaimed as a victory and is regarded as an offset to other productions

falling short of the plan. Obviously an attempt at precise co-ordination is inconsistent with such an attitude. If a bridge is planned, the "over-fulfilment" of one pillar does not compensate for the "under-fulfilment" of another. Whatever its various authors might have had in mind when setting it out, the First Five Years' Plan has actually been a campaign of production aiming at a series of loosely connected tasks and inspired by the resolution to storm forward as far as possible in the various directions set out by the campaign. This spirit is being modified in the course of the Second Five Years' Plan, by the attempt which is now being made to introduce effective marketing.

FULFILMENT OF THE FIRST FIVE YEARS' PLAN

	Annual production figures.			Percentage fulfilment of plan.
	1927-28.	Planned increase.	Actual increase	
Coal (mill. tons) .	35	40	29	72
Pig iron (mill. tons) .	3 3	7.7	2.9	38
Steel (mill. tons) .	4.2	6 1	1 6	26
Rolled steel (mill. tons)	3.4	4.6	0 8	18
Oil (mill. tons) .	11 6	14 4	10.4	72
Electricity (billion Kwh.)	5	20	8 4	42
Motor cars (in thousands)	0	250	24	10
Tractors (in thousands)	0	270	57	19
Copper (thousand tons)	28	130	18	14
Housing (million sq metres)	185	42	22	52
Operating railway lines (thousand kilometres)	77	17	6.5	38
Superphosphate fertiliser (mill. tons) .	0.26	3 1	0.25	8

The Soviets claim that they have carried out the First Five Years' Plan. In doing so they pass over in silence the biggest item of their plan—namely, the planned increase of agricultural production by 55 per cent., instead of which a very serious fall took place during the First Five Years' period. The claim of having fulfilled (and even over-fulfilled) the plan is mainly based on the results of the heavy industries. It is stated that the production of these industries calculated in fixed prices increased from 7 billion roubles (1928) to 20 billion roubles (1932), which is about 10 per cent. more than required by the plan.

Actually this statement is disproved by a comparison of the official figures of quantities produced in 1932 with the official plan figures, as given in the table on p. 81. The table contains most of the items of production which are summed up by the official publication on the Five Years' Plan as forming its most important parts, namely: "Twenty-two billion Kwh. of electrical energy, 75 million tons of coal, 26 million tons of oil, 10 million tons of pig iron, 8 million tons of fertilizer, about 150,000 tractors and about 250,000 motor-cars, general machinery in value of 2 billion roubles, and agricultural machinery in value of 1 billion roubles." The table shows that coal-mining and oil-boring have been most successful, the plan being fulfilled to 72 per cent. In all other lines of production, more complicated than these, the results fall so much short of the plan as to indicate no effect of planning at all.¹

In the light industries the Soviet statistics claim

¹ As may be seen from the table given on page 79, the figures of the First Five Years' Plan have now been reached for various important items.

an increase of production value from 8.8 thousand millions (1928) to 16.3 thousand millions (1932), the increase being about 65 per cent. of the planned increase. So far as quantitative figures are to be found—*e.g.* for textiles—they suggest that no considerable increase has taken place. Considering this fact, and considering also the figures for the heavy industries, as compared with the claims set out by the Soviet authorities in roubles at alleged fixed prices, we feel justified in setting aside altogether the claims to any planned achievements in the light industries during the First Five Years' period.

Marketing.

In the course of the last four years the outline of an economic system has been developed by the Soviets, which is based on the principle of marketing. This system was inaugurated by Stalin's speech on June 23, 1931, in which three of the new principles were introduced: (1) Wages to be fixed so as to assure a sufficient supply of workers of required qualifications; (2) enterprises to be conducted on a profitable basis; (3) personal responsibility of business managers. In February, 1934, and in the following summer, these principles were further expanded: (a) Soviet trading in open shops was initiated; (b) the personal responsibility of managers was further enforced so as to make each manager sole master of his business ("Socialist ownership"); (c) local enterprises were made independent of the National Government.

This system is called by Stalin (1931) "Socialism" as opposed to "Communism." In 1934 Stalin

called his system the "first or Socialistic phase of Communism," of which the "second phase" was not to be attempted for a long time. An attempt to introduce Communism (its second phase) is regarded as a "monstrosity" which is as violently suppressed in the U.S.S.R. as in the Fascist countries.

As yet Stalin's Socialism is not a complete logical system of economy, but it seems possible to outline its tendencies towards such a system. Each person should try to make the best of his capacities so as to gain promotion and a higher income. Each business should use its resources so as to assure the best returns. Each consumer should buy at any shop the article he wants at the cheapest price at which he can get it. This economic system of Socialism is in its mechanism almost identical with that of Capitalism, the main difference being that "ownership" is not transferable by private agreement, since the Government appoints the "owners" (managers). In such a system enterprises must naturally become separate units under the effective control of managers who can make the best of local resources and local marketing; nor does it seem compatible with centralized planning.

Actually the planning of local enterprises by the central Government has become almost a formality in U.S.S.R. The local Soviets approach the central Planning Commission with various projects which they consider to be profitable. From these projects the Commission chooses a certain number which are thought to be sound, and the local authorities are then provided with the money to start them and are held responsible for their success. The approved projects then appear in the national plan of the year.

Thus the Commission actually undertakes towards the local authorities merely the functions of a financier to an entrepreneur.

A local enterprise is authorized to make investments up to a million roubles without asking for the approval of the Government, and it may make loans to *artels* of handicraftsmen to finance production for its own demands. The system can be best envisaged if we conceive of each private firm in a capitalist country being made into a limited company, the State holding the shares and appointing a manager to each enterprise.

While I feel convinced that no return to private ownership is possible in the U.S.S.R., it seems that public and collective management is developing on lines almost identical with those in the marketing system of Capitalism. The driving force in this direction is at each turn the recognition of the increased utility which arises when each economic unit strives for the most profitable activity as measured in market prices.

III

“ OVERTAKING AND OUTSTRIPPING ” THE CAPITALIST COUNTRIES

Efficiency.

The urban population of the U.S.S.R. produces consumers' goods and services to the value of about £800 millions and in addition means of production worth about £700 millions. The total is less than one half of the British national income (£3,600 millions) for a population which is only 15 per cent. smaller. Per capita the production of the urban

population is less than one half of the production per capita of the British population. This estimate is even too high, since the great deficiency in quality has not been fully taken into account. The reason for this comparatively low level of productivity is partly the low standard of efficiency, much deplored by the Soviet authorities. In 1933 76 million tons of coal, of which 9 million tons were brown coals, were mined by 400,000 workers. The German mines employed in 1931, for the production of the same quantities little more than 200,000 persons. The Soviet authorities were well aware of this lack of efficiency when setting out their plans. The tractor works, for example, were planned to use four times the labour per unit of production required in U.S.A.

Much of the inefficiency is put down to bad organization. Kaganovitch describes as one of numerous examples the case of the "Red Dawn Knitted Goods Mills." "The Mills received (in 1933) nineteen different sets of instructions, every one of which contradicted the others. The plans were altered over and over again as follows: the output plan—seven times; productivity of labour plan—four times; cost of production—eight times. The plan for 1933 was finally endorsed on January 4, 1934." It is with a view to remedying such a situation that it was decided to decentralize industry and to make the manager master of his enterprise.

Poverty.

In a country of great natural wealth, inefficiency and poverty might be considered as synonymous. But "inefficiency" which is due to lack of roads,

railways, machinery, and houses is better regarded simply as poverty. The poverty in houses we have already noted. The poverty in railways is equally marked. The European parts of U.S.S.R. have 1.3 km. of railways per sq. kilometre. Thus, while the density of population in U.S.S.R. is 30 per cent. higher than that of the U.S.A., the railway system is less than one-third as dense as that of the U.S.A. (4.3 kilometres per sq. kilometre). The best part of the country, the Ukraine, has a density of population nearly equal to that of France, while its railway system is less than one-third in density. Moreover, all railways are in a very bad condition. The country is practically roadless, and millions of motor-cars would be of little use so long as this continues. Even more fatal than these deficiencies is the agricultural over-population. The sown area of the U.S.S.R. is about 320 million acres, on which are 25 million farmsteads. This gives about 13 acres to the farmstead. On the average 10 of these acres are growing grain, being about equally divided between wheat, rye, and oats; half an acre is for growing potatoes. The average stock per farmstead is 0.8 cows, 0.5 swine.¹

A comparison of the European territories of the U.S.S.R. with the U.S.A. shows best the position of Russian agriculture. The territory of the U.S.A. is about 30 per cent. larger than that of European U.S.S.R., while the populations are about equal. In the U.S.S.R. more than three-quarters of the population are engaged in agriculture; in the U.S.A. less than one-quarter is thus engaged, and this one-

¹ Including the animals owned by State farms and *Kolchoses*.

quarter provides a population four times its size with abundant agricultural produce of all kinds. Although the non-agricultural population which is provided for by farmers in the U.S.A. is thus nine or ten times as large as in the U.S.S.R., and although the buying power of this section of the population is at least thirty times as large as the buying power of the non-agricultural population in the U.S.S.R., the U.S.A. has a considerable surplus of wheat and cotton for exportation.

Overtaking and Outstripping.

This is the war-cry of the U.S.S.R., and as first steps towards its realization three objects require accomplishment :—

1. The addition of about 5 sq. metres of dwelling floor space per head of the population—i.e. 1,000 million sq. metres of floor space at a cost of £5,000 millions.
2. The construction of about 500,000 kilometres of railway together with equipment, at a cost of at least £5,000 millions.
3. The construction of about 1,000,000 kilometres of highways and some 30 million motor-cars, which together would cost another £5,000 millions.

After having spent the £15,000 millions an approach could be made to the main problem of what should happen to the agricultural population. At present the Soviet authorities are aiming at developing agriculture on an extensive scale, after the model of Canada. Complete success in this aim

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would mean the production of the same amount of grain on about the same acreage, utilizing at most only one-twentieth of the present agricultural population. This raises the problem of the utilization of the remainder of the population. By opening up Siberia and transferring most of the agricultural population to those parts, the increase of arable land would be two- to three-fold. But what would be the use of a two- or three-fold grain crop? Already there is enough grain in the country, and certainly there is no way of selling some 100—200 million tons of grain at a profit on the world market.

Industrialization appears to be the only way out, and this is in fact the most prominent aim of the Soviets. Officially it is stated that the country is now industrialized up to 75 per cent., the next step being to industrialize it up to 80 per cent. These figures are, however, quite meaningless; they compare the respective production values at rouble prices by the Soviet Government. To industrialize the country really means the transference of nearly 100 million people to non-agricultural occupations. In the past six years the Soviets have transferred about 10 millions, and the effect has been an overcrowding of the towns to such an extent that they have had to be closed to all further immigration.

The past six years have added to the national production of about £2,200 millions a heavy industrial output of about £550 millions. The heavy losses suffered during this period in the deterioration of railways and destruction of live-stock detract considerably from the value of this progress. But, accepting the increase at its face value, how far has it brought the country on its way of overtaking and

outstripping? It does little to suggest when the £15,000 millions can be found for the reconstruction of housing and communication; and still less does it indicate how long it will be before the national income is brought to the £15,000-20,000 million which a population which will very soon number 200 millions should have when it overtakes such countries as Great Britain or the U.S.A. Owing to its size, the U.S.S.R. might soon become a very powerful country, but it will remain a very poor country during the lifetime of any person who can remember the revolution of 1917.

IV

THE DRIVING FORCE OF THE U.S.S.R.

Prospects for the Individual.

Every time I have stayed in the U.S.S.R. I have been impressed by the eagerness of spirit prevailing in the country, and a large number of other visitors from all classes whom I have met there have been equally struck by this driving force, though they may arrive at different judgments on its outcome. In attempting to define this driving force I find that it has two main sources, the first of which is the hope of personal success which is disseminated in the population. Every worker feels sure of a job, and hopes to get a much better job by working hard and improving his skill. While the average monthly wage on State farms and in the textile and food industries ranges from 100 to 110 roubles, the average wage of steel workers in the open-hearth departments is 750 roubles. Premiums are offered and given for good work to individuals and groups,

and the best workers (*udarniki*) enjoy valuable privileges.

The educational possibilities offered to the workers and their children open up a further path to promotion. Engineers and higher officials, successful doctors and scientists, live on a moderately comfortable middle-class scale, their salaries ranging from 600 to 1,000 roubles, often being supplemented by extra income from private work and by additional benefits arising from their position in the way of lodgings, motor-cars, travelling, and recreation. During my last visit to Moscow two large and excellent new hotels were in the course of construction to receive officials coming on business from the provinces. Considering the average housing conditions prevailing in the U.S.S.R., such accommodation is very far above the ordinary level. Numerous goods, such as photographic cameras, wireless sets, bicycles, motor-cars, taxis, and country houses, are used or owned by successful persons who have managed to purchase them or who have received them as special gifts from the Government. Successful workers and officials are encouraged to make full use of these amenities and to enjoy life. Dances and theatres are crowded, and the pleasures of good dressing and good food are looked upon as creditable attributes of the new "cultured" life.

I cannot here enlarge on the various accompaniments of this cultural change. The best of the sweeping changes is the casting away of extravagances in teaching methods, and the introduction of normal forms of school life together with a curriculum approaching Western requirements. The wide opportunities of promotion are naturally most

accessible to the town-dwellers. But, though the ascent to the peaks of social life is more difficult to the peasant, the heights of these peaks must appear to him extremely dazzling and exciting. For him to become a factory worker of any class means a rise to almost three times his present level. Thus there is a pioneer spirit pervading the population, based on hope of personal success and carrying with it the possibility of primitive enjoyments characteristic of pioneer communities.

The Social Outlook.

But there is another and more important side of this spirit to be considered. The great masses of workers and officials of the U.S.S.R. are not called upon to do any work for which they are not paid. Stalin has by now firmly based the wage system on common sense. The marketing system is expanding further and might soon become the mainspring of most economic activities. As a real economic system develops in the U.S.S.R. from the present conundrum of makeshifts it might become synonymous with Capitalism. But it would be carrying pragmatism much too far to consider synonyms as identities in social matters. When the one name of the State supersedes the million names of private firms the economic consciousness of all workers becomes unified under a common symbol. It is for this simple and materially almost unimportant fact that the U.S.S.R. is a different world from Capitalism. In the U.S.S.R. there is a complete inversion of responsibilities. While in Capitalism all good things grow by themselves and the State is called to responsibility only when things go wrong, the State

is here made the fountain of all benefits and the population itself is execrated for all failures. State economy fills daily work with public emotion; dictatorship so directs this emotion as to secure loyalty to the State even in the midst of a catastrophe. Under the Soviet system the capitalist relation between private and public motives is turned inside out. Whereas the avowed task of the private owner is self-seeking, and his implied social functions are out of sight, the Soviet ruler is overtly working for the public good only, and his personal ambitions remain behind the scenes. For these reasons the system in the U.S.S.R. is felt to be purposeful even though its actions are not particularly reasonable, and it is considered as social though its inequalities are striking.

But there still remains the major consideration, that this dictatorship is acclaimed as a liberation of the workers. The reason is that the workers draw greater spiritual advantage from the unification of economic consciousness, and suffer less serious losses by it, than any other parts of the community. The emblem of the State, with which the workers associate themselves and which is stamped on all sign-boards, is to them what the national flag was to the people of earlier days when it was spread out over all the blazons of the feudal lords. They are not owners of their factories any more than the British citizen is owner of the British Navy. But they are owners to the same extent, and as such they can take pride in their factories as much as the British take pride in their Navy.

Mediæval craftsmanship and, later, pioneer business life in which everybody was an owner or

hoped to become one, have been two forms of economic consciousness for the workers. They have passed; State management by a bureaucracy linked to the working class is a new and valid expression of economic consciousness for the workers: once more it gives a meaning to their labours. This collectivist interpretation ignores the value of individual independence and attacks at every point the ideas and institutions which would set limits to public authority. If their destruction is to be avoided, the community must be made conscious of purpose in its daily life by some other means than a social revolution. A way has to be found of clearing the sight of the citizens otherwise than by the smashing of a mechanism which they fail to comprehend.

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TRUTH AND PROPAGANDA (1936)

. . . Stalin, whom foreigners are apt to think of as a dictator, being merely principal secretary to the organisation, a post from which he could at any moment be dismissed by the highest committee.—S. and B. Webb, *Soviet Communism* (1935).

WHILE under the Holy Alliance stillness reigned over Europe, modern dictatorships resound with the voice of enthusiastic crowds. While absolute monarchy claimed all public matters for itself, bidding the citizens to keep quiet and to mind their private affairs, party dictatorship demands active participation of all men and women in public life; the machine of democracy is kept in full swing, not indeed to give opportunity for expression of opposition views, but to let the people show their enthusiasm for the reigning party and to let them discuss how they could even more zealously fulfil its policy. Freedom to-day is drowned in popular emotion.

The democratic machinery can safely be used in this fashion as a drilling-ground for professions of loyalty only if every public body is watched by a sufficient number of determined party members who, in their turn, can rely on swift and merciless action of the police. Experience shows that a small percentage of party members backed by police can bully the rest of any public meeting composed of indifferent or unorganized opponents of the Government into loyalty, causing the gathering to appear

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or even to be full of enthusiasm. However, even a considerable proportion of party members has proved to be ineffective if, as in the case of the Protestant Church in Germany, they are not supported ruthlessly by the police. The use of the democratic machinery for the subjection of the people is thus seen to depend ultimately on police terror. Every citizen has to know that he is under surveillance of an armed force wielding arbitrary powers to imprison or execute him on the suspicion of opposing the Government's policy.

Dictatorship wishing to control the totality of human life in its territory will try to extend the democratic machinery as far as possible; it will draw the whole adult and juvenile population into participation while at the same time widening the scope of public life to include activities formerly private, such as, for example, sport, love, or cooking. The democratic machinery is tested periodically by its rulers through the taking of votes. On these occasions the party uses its powers of persuasion, surveillance, and intimidation to the utmost. An efficient dictatorship will obtain practically unanimous votes even though admitting the widest franchise and secret voting, while polling will reach percentages ranging up to figures unheard of in democratic countries.

The more cruel a dictatorship the more democratic can—and will, in general—be its institutions. Hitler often defied the very much milder Austrian Government to follow his example in taking a popular vote on its policy; and there was never any doubt that, when he came to rule in Vienna, he would bring general franchise and the secret ballot

to the people of Austria, who would by these channels approve his policy as emphatically as did, for example, the inmates of the concentration camp of Dachau in 1934.

The dictatorial use of the democratic machinery was first developed in the war of 1914-18. Propaganda ministries wielded emergency powers to impart orthodox information, ideas, and feelings and to stamp out other views. Modern dictatorships were always well aware of the use of war methods in their home policy. They constantly referred to their activities in military terms, and they justified their arbitrary powers by keeping up a state of war-like emergency, real or imaginary.

This mechanism of modern dictatorship seems obvious to any observer who is out of sympathy with the reigning party. If he cares little for either Communism or Fascism, the similarity of the various Party dictatorships will seem equally obvious to him. The non-Communist reader will, therefore, be deeply struck by Mr. and Mrs. Webb's account ¹ of the political system of the U.S.S.R., which conveys a very different impression. On close examination of the book he will find the following explanation of the discrepancy.

The authors trace the main outline of the political system by presenting its legal structure and its most patent facts. Accordingly, they draw a monumental picture of its public life, which embraces the young and the adult at work and at leisure, operating through millions of meetings and discussions,

¹ *Soviet Communism: a New Civilization?* By Sidney and Beatrice Webb. 2 vols. (Longmans, Green. p. 1174. 35s.)

based on a wide franchise and on pollings ranging up to almost 100 per cent. We are made to admire the functioning of the democratic machinery—which under dictatorship rattles the louder the more effective the secret terror which controls it from below—and we are made to delight in the freedom enjoyed by the citizen. No single detail of this account is literally incorrect; it is mainly by the space given to the description of the structure and operation of the democratic machinery and by the enthusiastic comments accompanying it that the picture of a free and powerful democracy is impressed on the reader.

Nor are the actually operating powers of the dictatorship, such as Stalin, the Party, the OGPU, left undiscussed. But the references to these are not allowed to destroy the picture of a great democracy; they become assimilated to the main argument or else, where some circumstances are admitted to be at variance with it, their weight is reduced to that of merely transitory or, at the most, unfortunately unavoidable minor circumstances.

The result is a presentation which, at first sight and probably to most of the readers, conveys nothing else but a monumental apologia of Soviet institutions and of the freedom enjoyed under them, while on closer examination it proves to be so full of nicely adjusted reservations and containing so many details incompatible with the main argument that the careful student finds it impossible to form any picture whatever of the political system of the country.

The greater part of the book bears directly or indirectly on the political system; the other parts

dealing with economic matters, social services, and scientific work are built up by a method similar to that used for the presentation of the political system. The authors base their main argument on the information given to them or to other writers by the Soviet Government. This material, underlined here and there by the authors' enthusiastic comments and accompanied by their interesting reflections, makes easy reading to the general public. The material, however, having been originally issued with a view to propaganda, is unsystematic and therefore most unhelpful to a student seeking serious information on any particular subject. On careful reading one finds, indeed, that the gaps, inconsistencies, and vague points are so numerous that it is not possible to draw from this material any definite conclusion of a general kind.

I will now quote some specific evidence in support of this general criticism, drawing it mainly from the authors' discussion of the political system which dominates their account of the U.S.S.R.

The first volume (528 pp.) deals with the Constitution of the U.S.S.R. as the authors see it. They claim that this is composed of—

- (1) The legally instituted political bodies described in the section "Man as a Citizen";

- (2) The Trade Unions in conjunction with the parallel bodies of the non-wage-earning population forming together the organization of "Man as a Producer";

- (3) The co-operative shops, comprising "Man as a Consumer"; and

- (4) The Communist Party, which is described

in a chapter entitled "The Vocation of Leadership."

In the introductory chapter, on "The Constitution as a Whole," it is pointed out that these four organizations are the most important of half a dozen "pyramidal structures" each "based, according to a common pattern, upon a vast number of relatively small meetings of associated citizens for almost continuous discussion, and for the periodical direct election of primary representative councils. Each of these structures rises tier after tier, through successive stages of councils, governing ever-widening areas and constituted by indirect election, up to a group which is supreme for each particular mass. These half a dozen culminating groups, in different combinations, and by more or less formal joint consultations, constitute the source of all governmental authority, whether legislative or executive" (p. 4). The principle of self-government incorporated in these pyramids is further emphasized on the page entitled "The Power Cable": "The power needed for administration may be generated in the innumerable meetings of electors, producers, consumers, and members of the Communist Party, which everywhere form the base of the constitutional structure. It is transmitted through the tiers of councils as by a mighty conducting cable, working, as it passes, the machinery of government in village and city, district and province and republic. It is this conception of an upward stream of continuously generated power, through multiform mass organization, to be transformed at the apex into a downward stream of authoritative laws and decrees and

' directives,' that is indicated by its inventors by the term ' democratic centralism ' " (p. 7).

The next 150 pages deal with " Man as a Citizen." In the sub-section, " The Base of the Pyramid," the electoral franchise is carefully compared with Western systems and its extraordinary wideness emphasized. Directing our attention more particularly to the political rights of the rural population, we find that in the meetings of the village electors " the discussions range over the whole field of public interests." " The village meeting may pass resolutions in the nature of suggestions or instructions on any subject whatsoever . . ." (p. 25). As to the village Soviets elected by these meetings " the newest decree insists that it should consider and discuss also affairs of rayon, oblast, republic, and even U.S.S.R. importance " (p. 29), and further we read that according to Soviet jurists " within the village the selo- (village-) soviet is ' sovereign ' ; meaning that nothing which it does requires the sanction of any higher authority before it is put in operation " (p. 30), a statement to which the authors add the exclamation " This does not look as if the Soviet Government was afraid of the peasant, or distrustful of popular democracy ! " (p. 30).

The rural part of the population of U.S.S.R. was up to 1928 more than 80 per cent. and is even now not less than 75 per cent. of the total. We are told that this numerical preponderance always outweighed the less favourable rate of representation of the rural population, so that " the delegates deriving their mandates ultimately from the village soviets at all times constituted the majority of the All-Union Congress of Soviets " (p. 445), which is the supreme

body in the Soviet Hierarchy. This body elects a Central Executive Committee called "TSIK," to which, we are told, is entrusted "all legislative and executive power" in the interval between the biennial meeting of the Congress, which lasts only a week or so (see pp. 83 and 87).

We are thus led to understand that the political system of the U.S.S.R. is that of popular self-government, which, owing to the overwhelming numerical excess of the agricultural population, naturally leads to a preponderance of the rural representatives. Nor should we doubt that the people make effective use of the wide liberties granted to them, since, according to the authors, "nowhere in the world outside the U.S.S.R. is there such a continuous volume of pitiless criticism of every branch of government" (p. 773), and at the close of their book they re-emphasize it that "there is, as the student will have concluded, no country in the world in which there is actually so much widespread public criticism of the Government and such incessant revelation of its shortcomings, as in the U.S.S.R." (pp. 1026-1027).

Nor should any apprehension that the Communist Party might exercise undemocratic pressure on the decision of the people be sustained, since "neither the organization nor the activities of the Communist Party are so much as mentioned in the 'Fundamental Law' or in any statutory amendments of it. Nor has the Party any legal authority over the inhabitants of the U.S.S.R., not even over its own members!" (p. 340), and accordingly "If the Party influences or directs the policy of individuals or public authorities it does so only by persuasion. If it exercises power it does so by 'keeping the con-

science' of its own members, and getting them elected to office by the popular vote" (p. 340).

These statements should establish it beyond doubt that the U.S.S.R. is the freest peasant democracy of the world. The reader is, therefore, deeply puzzled how to reconcile them with the action described in the section pp. 237-272, by which the Government of the U.S.S.R. transformed the majority of the peasant holdings into collective farms, overcoming—as the authors tell us—the fierce opposition of the whole agricultural population.

The authors do not refer to the discrepancy of this action with the statements made in the course of their principal argument quoted above; instead they introduce the subject as follows: After the civil war in which the peasants supported the Red Armies "the peasants, poor, middle, or kulak, now imagining themselves proprietors of the land they tilled, demurred to parting with their produce to feed the cities, even at free market prices, so long as these prices did not enable them to obtain the manufactured commodities they desired at something like the old customary rates. The peasants, moreover, even the very considerable proportion of them to whom the revolution had given land for nothing, resented, like peasant proprietors all over the world, the levying on them of any direct taxes. Nor did the marked development, in the village, of the characteristic peasant vices of greed and cunning, varied by outbursts of drunkenness and recurrent periods of sloth, produce anything like general prosperity, nor even any common improvement in agricultural methods. What became apparent was that the peasant, formerly servile, was becoming rebellious" (pp. 238-239).

For an appreciation of this passage we have to recollect two facts not directly pointed out in the book :—

(1) The peasants in Russia were at all times much poorer than the urban population.¹

(2) The direct tax claimed by the Soviet Government and actually obtained after collectivization amounts to about 40 per cent. of the net income of the farmer.² This is illustrated unintentionally in the book by the account given of a successful collective farm by which “ 227 tons of grain was sold [in 1932] to the Government out of a total grain crop of 619 tons ” (p. 280). “ Selling ” to the Government means grain delivery at a nominal price, the amount delivered in this case is—deducting 10 per cent. for re-sowing—40 per cent. of the net crop.³

Carrying these facts in mind, one might well be

¹ *Summary of the Fulfilment of the First Five-Year Plan*; Moscow, 1933; states on p. 197 “ peasants and collective farmers drawn into industry have raised their living standards 2.5 to 3 times.”

² See above, p. 67, and Knickerbocker, *Rote Wirtschaft und Weisser Wohlstand*, Rowohlt; Berlin, 1935; pp. 49–50, where the Government prices paid for wheat are compared with the price of bread sold by the Government.

³ The lack of any direct statement on the rate of the grain levy is one of the most serious gaps in the book. The report on Taxation, pp. 116–117, mentions a single agricultural tax “ on all agricultural enterprises ” (which is said to be much in favour of the collective farms as compared with the individual peasant), but no rates are quoted—although the figures for the “ progressive income tax ” are given in detail. The grain levy is at the bottom of all the main political, social and economic events of the past nineteen years in the U.S.S.R. The reader who is left uninformed about the actual size of this levy cannot possibly understand any of these events.

struck by the tone of ironic deprecation in which we are told that the peasants "resented, like peasant proprietors all over the world, the levying on them of *any direct taxes*," even though "*the revolution had given them land for nothing*." How mean of the peasants—we are asked to feel—not to pay gladly to "the revolution" some 40 per cent. of their income in return for its gift! And we actually hear the masses of the poor defamed as greedy and cunning drunkards because they are unwilling to be taxed at the rate of 40 per cent. by a Government supported only by a small relatively prosperous minority.

In other places and at other times it used to be rather the Governments acting in such manner which were reproached with greed and cunning by the advocates of justice and freedom, but the authors do not consider this alternative; feeling that the Soviet Government has no other purpose than "to obtain for all the conditions of the good life" (p. 1018), they freely speak of "120 millions of peasantry steeped in ignorance, suspicion, and obstinacy" (p. 245), without giving any consideration to the wishes and rights of these millions, not noticing that their attitude justifies Hitler and Mussolini, Colonial Imperialism and the Holy Inquisition, as well as a number of less illustrious tyrannies, who all are or were seeking the conditions of good life for those oppressed by them—as sincerely as do the Soviets. To them, it seems, "where systems differ is in who wields the bludgeon and with what purpose" (p. 1032); so long as they approve of the bludgeoner and his purpose they call it democracy.

The authors' reluctance to adopt this doctrine consciously and openly seems responsible for the

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various paradoxes in which they get involved. Of these the following is a further example close at hand.

We are told that the fight over collectivization was at its height in the year 1931. "Beginning with the calamitous slaughter of livestock in many areas in 1929-1930, the recalcitrant peasants defeated, during the years 1931 and 1932, all the efforts of the Soviet Government to get the land adequately cultivated" (p. 265); yet have we not learned on an earlier page that during the same period the Communist Party was enormously popular among the peasants? We have been told that "it is significant of the character and popularity of the Party that out of 59,797 village soviets at the 1931 election, 35,155 chose a Party member as elected president, who is always a member of the local presidium, whilst 3,242 others elected a Comsomol" (pp. 31-32). We are thus asked to believe that, at a time when the peasants were killing their cows in a desperate struggle against the Communist policy, the popularity of the Party among them was so great that it caused them to elect a member of the Party as soviet chairman practically whenever or wherever they could find one. One is left to wonder whether perhaps the word "character," associated with the word "popularity" in the above passage, might not indicate a reservation which resolves the paradox: "character" might perhaps stand for "terroristic character."

The short chapter entitled "In Whose Interest Does the Government Act?" (p. 449) suggests, however, that the village soviet chairmen of 1931 are only a special case of a more comprehensive paradox. It seems that in Russia it is quite customary for the agricultural population to elect representatives who

are opposed to their own interests. Only this can explain the fact stated in this chapter that up to 1927 the Government acted only in the interests of "the urban or industrial manual-working wage-earners"—that is, of about 15 per cent. of the population. Later on, it is true, at least one class of the peasants seems to have become more mindful of their interests or more enlightened in the choice of their representatives; for "since 1928 the Government may be deemed to have in view also the interests of the kolkhosniki, the owner-producers in agriculture who have joined together in collective farms." The reader, bearing in mind the events of 1929-1932 to which I referred before, will ponder on the carefully chosen words "may be deemed to have in view" in this curious passage, and he might wonder whether the "interests of the kolkhosniki" are meant to be distinguished from their *wishes*, and if not, what would have become of the Government if the wishes of the kolkhosniki of 1929-1932 had been fulfilled.

But whatever may be the reader's reflections on these points, one thing appears clearly to him both from the history of Collectivization, as told by the authors, and from the last quoted passage—namely, that the Government has at all times strongly opposed the interests of the individual peasants, whom it subjected to detrimental taxation (p. 116) and other discriminating measures. Yet on page 725 he finds: "Adhesion to the collective farm is entirely voluntary." So he again feels much puzzled.

The reader comes across more paradoxes if he examines the authors' favourite argument in proof of free speech in the U.S.S.R.: "It may surprise those who assume the existence of a dictatorship, and

deny that of free speech, to learn that, for nearly three years (1925-1928) the issue [of agricultural policy] was the subject of heated public controversy in articles, pamphlets, and books, widely circulating in large editions, as well as prolonged committee debate in the Central Executive Council and within the Communist Party " (pp. 242-243). The argument is repeated in various forms on pages 348, 367, 448, and 1099.

But, the reader will wonder, can the struggle between Stalin and Trotsky, ending at the close of 1927 with the victory of the former, be adduced as an illustration of common usage in present-day Russia? The fact reported on page 619 that immediately after the close of the debate Trotsky and hundreds of his followers were exiled to remote parts of the land and that, as we know from other parts of the book, later on most of the others who stood on the losing side of that debate lost their life or their liberty at the hands of the secret police, must certainly discourage the present-day Russian to look upon that debate as a precedent on which to base his claim to free speech; the more so, since it seems that the Soviet Government does not at all wish it to be considered in such a light. An official publication of 1933, quoted by the authors, refers to the debate in the following terms: "The Five-Year Plan was born in the midst of a fierce class struggle around the question of the main roads [or] means of socialist construction. Notwithstanding the counter-revolutionary resistance of the Rights and the Trotskyists, the Communist Party and the Soviet Government adopted the Five-Year Plan" (p. 621). What the authors ask us to consider as a typical example of a

free debate, the Soviet publication quoted by the authors calls "class war" and "counter-revolution."

But even the authors themselves seem unable to make up their minds on this matter. While a footnote on page 1100 explains that it was only the persistence of Trotsky in his factious conduct after the Party decision of December, 1927, which led to his persecution, the "Index of Persons" attached to the book states that Trotsky "after Lenin's illness became persistently in opposition to the Party policy and was transferred from Commissariat of War to that of Transport; expelled from Party 1927, and exiled to Alma Ata" (p. 1159). Since "opposition to Party policy" is equivalent to "counter-revolutionary resistance," this passage condemns as strongly as the Soviet source quoted before the use which Trotsky made of the alleged right of free speech, and it flatly contradicts all the previous arguments of the authors on this matter.

The puzzled reader wonders that the authors should quote such a doubtful example of the exercise of free speech no less than five times, giving not a single other case of a public discussion on important political matters. Supposing that it is the only example they know, how can they venture to use it at all?

Another little example of the method by which the authors assimilate a piece of evidence to their main argument, that the U.S.S.R. is not a dictatorship but enjoys freedom of thought and expression, is found on page 435. We read: "It is not easy to get hold of copies of the pamphlets surreptitiously circulated in opposition to the present Government

of the U.S.S.R.” Then follows a list of objections made by one of these pamphlets, and the following conclusion is drawn: “It will be seen that these criticisms of the U.S.S.R. Government are exactly parallel in substance and in form with those that are made by a Parliamentary opposition to the policy of a Prime Minister in a Parliamentary democracy. They do not reveal anything peculiar to a dictatorship as such.”

It is not the fact that criticism, which would be freely admitted in a democracy, can be circulated only surreptitiously in Russia that appears significant to the authors; the conclusion which they draw is that there is no dictatorship because it is not mentioned in the pamphlet. The writer of the pamphlet, they imply, had no objection to being threatened by imprisonment or execution, since he makes no statement to the contrary.

I will conclude my demonstration of the authors' inconsistencies (which could be continued indefinitely) by showing how the main outlines of the actual political system of the U.S.S.R., so unlike the picture which the authors try to impress upon us, can be made perfectly clear by collecting some of their own statements.

We read: “There can be no doubt that Stalin correctly described the situation when he referred to ‘the supreme expression of the guiding function of our Party. In the Soviet Union, in the land where the dictatorship of the proletariat is in force, no important political or organizational problem is ever decided by our soviets and other mass organizations, without directives from our Party. In this sense

we may say that the dictatorship of the proletariat is substantially the dictatorship of the Party as the force which effectively guides the proletariat ' ' (p. 370). The method by which the Party, which, we are told, includes 3 per cent. of the voters, exercises its rule is also described : " The highest governing bodies in all these hierarchies are found to be almost wholly composed of Party members " (p. 353). " The Party members who are office-bearers, and who are all pledged to complete obedience to the dictates of the Party authorities, have assumed as their main vocation the supreme direction of policy and the most important parts of its execution, in every branch of public administration in the U.S.S.R., where public administration covers a much larger part of the common life than it does in any other country " (p. 354). Even out of office we hear that a Party member " on announcing his Party membership, will usually be able to secure obedience, or, if not, he can command any militiaman (police constable) or local official to take action " (p. 355).

In the last resort the Party dictatorship relies on the ruthless use of the armed forces, including the secret police : " It can be inferred that it was actually expected that to carry to completion the new agrarian revolution would involve the summary ejection from their relatively successful holdings of something like a million families. Strong must have been the faith and resolute the will of the men who, in the interest of what seemed to them the public good, could take so momentous a decision " (p. 563). These men certainly showed supreme faith in the police. We might, therefore, agree that " without the G.P.U. there would be no Communist Party in

Russia to-day, no Union of Socialist Soviet Republics.”¹

The Party exercises the legislative powers through two alternative channels. Firstly, as already stated, they secure for themselves the majority of the seats in the higher representative bodies. For example: “At Moscow in 1931 it was they who saw to it that two-thirds of all the candidates who survived to the final votes belonged to the all-powerful Communist organization” (p. 46). Secondly, since 1928 legislation is more frequently enacted simply by orders of the Central Committee of the Party, which “does not limit its intervention in the Government of the U.S.S.R. to what may be considered legislation, even in its widest sense”; but also “is perpetually directing the executive work of the far-flung Party membership” (p. 370).

The real power resides with a small Committee called the Politbureau (p. 366). In the Politbureau the influence of Stalin is dominant. On account of the “Adulation of the Leader,” referred to on page 439, “he may be thought to have become irremovable from his position of supreme leadership of the Party, and therefore of the Government” (p. 438).

The rules of the Party require that “once any issue is authoritatively decided by the Party, in the All-Union Party Congress or its Central Committee, all argument and all public criticism, as well as all opposition, must cease” (p. 348). Since changes of policy cannot be discussed without criticizing the accepted policy, it follows that no important political discussion whatever is permitted.

¹ From a statement quoted on p. 586 as coming from “a foreign resident of candour and experience.”

Thus the simple and well-known truth emerges that the U.S.S.R. is ruled by the Communist Party, under the orders of the Politbureau, which is dominated by the unassailable power of Stalin. Had the authors started off from these facts, instead of trying to submerge them in a flood of argument on freedom and democracy, they would no doubt have arrived at a more consistent and intelligible account of the political system of the U.S.S.R.

Next to the political system of the U.S.S.R., to which the greatest part of the book relates, the system of Socialist economy is its most important subject. It is, however, impossible to understand from their book how this system works, since the authors do not tell us how outputs and prices are fixed. We are told that "Gosplan has to compare the aggregate expected demand for each commodity or service . . . with the amounts that the productive enterprises are severally proposing to turn out. . . ." (p. 629). We might expect these two quantities to be different in general; but we hear nothing of the principles by which the decision is taken between the two possible alternatives by which their disparity can be bridged: to change the output or to adjust the price. Since the authors give no consideration to this question, and, especially, do not mention pricing at all, their account leaves the reader completely in the dark as to the economic mechanism of the U.S.S.R.

On the factual side the book is equally deficient. It is written—as are, for example, pages 650–657 on the results of planning—in the form of an enthusiastic catalogue of disconnected items without even an attempt at a statistical analysis of the crude

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data. Students wishing to find out facts on any particular subject, let it be taxes, wages, prices, housing, morbidity, or education, will find that the material presented is so full of gaps, so crude, and so vague in its foundations as to be of little help to them for any serious study on the subject.

In the chapter on "The Good Life" we are told that the enterprise of the Soviets is like the undertaking of a great engineering work of uncertain success. "While the work is in progress any public expression of doubt, or even of fear that the plan will not be successful, is an act of disloyalty, and even of treachery, because of its possible effect on the wills and on the efforts of the rest of the staff" (p. 1038). I cannot remember any engineering project from the Suez Canal to the flight of the Graf Zeppelin or the draining of the Zuider Zee during which the public expression of doubt was made a capital offence or was not, indeed, quite customary. The great feats of civilization have not been accomplished by dictatorial efficiency nor have they needed for their protection that atmosphere of enthusiasm combined with panic which is supposed to be required for the creation of the conditions of "The Good Life."

It is deeply regrettable that the authors make it their task to discover new arguments for the protection of governments stampeding their peoples into "The Good Life" against interference from those who seek the truth. Such sacrifice of the intellect benefits all dictators equally, and on balance amounts to an injection of more venom into the issues of Europe's civil strife.

If such philosophy prevails there is little hope that the admirable advice, given to both the economists

of the U.S.S.R. and those of the Western world, "that the reciprocal ignoring of each other's studies and the reciprocal contempt for each other's arguments is, on both sides, unworthy of what should be a matter of serious common investigation" (p. 675), will gain acceptance. Still less can we hope for that reconciliation of rival social doctrines which alone can save Europe from dissolution. Such an aim can be attained only by tolerance—that is, restraint imposed by those who seek the truth on governments bludgeoning their peoples into Goodness.

Many thinkers to-day do not believe in truth; of those who do, few consider it to be right to tell the truth regardless of political consequences; thinkers have thus forfeited their right to restrain governments in the name of truth. Unless intellectuals make a new departure, inspired by unflinching veracity, truth will remain powerless against propaganda.